TIROS VII RADIATION DATA CATALOG AND USERS' MANUAL

Volume 2 (October 1, 1963 - February 29, 1964)

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TIROS VII RADIATION DATA CATALOG AND USERS' MANUAL

VOLUME 2 OCTOBER 1, 1963 – FEBRUARY 29, 1964

By
Staff Members
of the
Aeronomy and Meteorology Division
Goddard Space Flight Center
National Aeronautics and Space Administration

December 31, 1964

FOREWORD

The quantity of radiation data already acquired from TIROS VII exceeds several times over the total quantity acquired from any of the previous TIROS radiation experiments, and as of this writing data are still being acquired. As a result, the TIROS VII Catalog-Manual is being published in several volumes. Each volume of this series contains time-dependent information for the specific time period covered by the volume concerning radiometer response patterns, possible corrections for instrumental degradation, the Index of Final Meteorological Tapes, and Subpoint Track Summaries. This, the second volume, covers the time period October 1, 1963 to February 29, 1964. Subsequent information covering time periods after February 29, 1964 will be covered in succeeding volumes. The first volume of this Catalog-Manual contains general discussions about the nature of the experiment, the calibration, and the processing, coverage, and documentation of the data, in addition to specific information concerning the period from launch on June 19, 1963 to September 30, 1963.

Many members of the staff of the Aeronomy and Meteorology Division contributed to the success of the TIROS VII medium resolution radiometer experiment. Valuable contributions in the area of computer programming for data processing came from the National Weather Satellite Center, U.S. Weather Bureau, whose efforts are gratefully acknowledged.

The task of assembling the information contained in this manual into written form suitable for publication was largely accomplished by the following members of the Aeronomy and Meteoretogy Division:

Mrs. Musa Halev Pasternak, Editor

Mr. W. R. Bandeen

Mr. Robert Hite

Mr. George Nicholas

Mr. Harold Thompson

Mr. Frederick Woolfall

The efforts of these individuals are hereby acknowledged.

The preparation of the material presented in Appendix B was accomplished mainly through the efforts of Mr. William Fizell and Mr. David Rasmussen.

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I. INTRODUCTION

This volume contains only time-dependent information for the period October 1, 1963-February 29, 1964 concerning radiometer response patterns, possible corrections for instrumental degradation, the Index of Final Meteorological Radiation Tapes, and Subpoint Track Summaries. General discussions of the experiment, the calibration of the radiometer, and the processing, coverage, and documentation of the data are found in Volume 1.

VI. PRE-LAUNCH AND POST-LAUNCH PERFORMANCE OF THE RADIATION EXPERIMENT

6.2 Post-Launch Behavior of the Experiment

An unfavorable satellite-sun geometry may exist for several days at a time, permitting the direct rays of the sun to impinge upon the sensors from the wall direction momentarily once during each satellite rotation. (See Section 6.2 of Volume 1 for a discussion of this phenomenon.) There were six periods during the time interval covered by this Volume when such an unfavorable satellite-sun geometry occurred, viz., the periods including the orbits numbered 1707-1739 (TIROS VII days 115-118), 1824-1860 (days 123-126), 2698-2748 (days 182-186), 3098-3173 (days 210-215), 3297-3582 (days 223-242), and 3727-3845 (days 252-260). When solar interference was severe, the data were not reduced. However, in several orbits where there was no interference with the longwave channels and only marginal interference with the short-wave channels the data were reduced.

6.2.1 Channel 1: The absolute values of most channel 1 values of ΔF during the period of Volume 2 continued to be less than 1 c.p.s. (Figure 68). Therefore the symmetrical optical degradation model was continued. As a result of the degradation curve's leveling off, the temperature corrections δT_{BB} for a given T_{BB} are nearly constant as shown in Figure

77. The correction nomograms are used in the same way as in Volume 1. As before, in addition to the temperature correction from the nomogram, a 2.5°K correction is to be added to the wall measurements, and the same amount is to be subtracted from the floor measurements.

6.2.2 Channel 2: All channel 2 values of ΔF continued to have an absolute magnitude less than 1 c.p.s., as shown in Figure 68. Therefore, the symmetrical optical degradation model was continued. The resulting correction nomogram is shown in Figure 78, and it is used in the same way as in Volume 1.

6.2.3 Channel 4: Only a few values of ΔF had an absolute magnitude greater than 1 c.p.s., as shown in Figure 68. Thus, the symmetrical optical degradation model was continued, resulting in the correction nomogram in Figure 79.

Beginning about day 140 (~ orbit 2073) a slight difference between the equivalent blackbody temperature measurements made in the floor and the wall directions over the same region was observed, with the floor measurements being the higher. This difference increased thereafter, reaching a magnitude of about 7.0°K by day 180 (~ orbit 2656). The floor-wall difference remained at this level beyond day 249 (at which time another aberration was observed, discussed below). This difference was observed from analog records by noting the increase of the difference between the channel 2 and 4 measurements on the wall side over those of the floor side. It was also observed in computerproduced grid-print maps of the floor and wall separately.

The mechanism for this behavior is not fully understood in view of the near-zero values of ΔF during the period between days 140-180 (cf. Figure 68). Therefore, pending further study of this effect, it is suggested that, in addition to the nomogram corrections, after day 180 (\sim orbit 2656) 3.5°K be subtracted from measurements made through the floor and added to measurements made through the wall of channel 4. During the onset period between orbits 2073 and

2656, it is suggested that the magnitude of this additional correction be varied linearly from 0° to 3.5° K. For example, from Figure 79, a measurement T'_{BB} of 260°K during orbit 2900 should be increased by 11.7°K and further modified by 3.5° K, wielding a corrected wall measurement of $260^{\circ} + 11.7^{\circ} + 3.5^{\circ} = 275.2^{\circ}$ K or a floor measurement of $260^{\circ} + 11.7^{\circ} - 3.5^{\circ} = 268.2^{\circ}$ K.

Beginning at day 249 and continuing afterwards, the space-viewed levels became erratic, seemingly randomly changing in magnitude within one or two seconds during the space-viewed portion of a swath. Similar erratic behavior may also have occurred during the Earth-scan portion of a swath, but it was not possible definitely to separate such spurious effects from the true signal. This behavior was apparently still another manifestation of the unstable transistor in the oscillator circuit, discussed in Volume 1. This aberrant behavior increased when the housing temperature increased, and decreased when the housing temperature decreased. Also, beginning on day 299, negative-going pulses appeared in the space-viewed level. Because of these fluctuations, corrections to channel 4 data are considered reasonably valid only to day 249.

6.2.4 Channel 3: The average channel 3 value of ΔF continued to be approximately -1.25 c.p.s., indicating a small amount of electronic degradation. The compound degradation model was continued, and the correction nomogram in Figure 80 was constructed using the method described in Section 6.2.4, Volume 1. It is used in the same way as in Volume 1.

Further evidence of a shift in the oscillator transfer function of -1.25 c.p.s. is found in Figure 82. The dashed line drawn through this scatter diagram of \overline{W} measurements from channel 3 (ordinate) and 5 (abscissa) of TIROS VII, intersects the ordinate at approximately -8.5 watts/m², the negative of the value of ρ^i in the channel 3 correction nomogram.

6.2.5 Channel 5: The absolute magnitude of channel 5 values of ΔF in Figure 68 re-

mained less than 1 c.p.s. Thus, the correction nomogram in Figure 81 was constructed from the compound degradation model with a value $\rho^i = 0$. It is used in the same way as in Volume 1.

6.3 Estimate of the Accuracy of the Data

The relative and absolute accuracies of channels 1, 2, 3, and 5 have not changed from Volume 1.

Until day 249 (February 23, 1964) the short-term relative accuracy of channel 4 measurements for a given side remains at \pm 2°K. The absolute accuracy after applying the correction nomogram and the suggested wall-floor corrections remains at \pm 8° until day 140 (Nov 6, 1963), and increases to \pm 10° from day 140 to day 249 (Feb 23, 1964). After day 249 the space-viewed level fluctuates, and no valid estimate can be made regarding either the relative or absolute accuracies of channel 4 measurements.

CONCLUSIONS

The major limitation of the TIROS VII medium resolution radiometer experiment is the uncertainty in the absolute values of the measurements, resulting from the degradation of the radiometer response and, also, from electronic degradation which, for the first time, was conclusively detected in TIROS VII. The degradation corrections given in Section VI can serve as a guide for interpreting the data in terms of absolute values. However, it must be emphasized that these corrections are only our best estimates, based upon certain simplifying assumptions, of the effects of a complicated degradation mechanism which we do not yet fully understand, and that the measurements thus corrected may still contain appreciable uncertainties.

Because of the extended lifetime of the radiometer, which as of this writing exceeds eighteen months, the potential of the TIROS VII radiometric data for climatological studies is significantly greater than it was for previous TIROS satellites. In utilizing the

measurements over extended periods, however, channel 2 and 5 data should be used in lieu of channel 4 and 3 data respectively wherever possible because of the superior stability characteristics of the former two channels. Channel 4 data are considered reasonably valid only to day 249.

The data from channels 1, 2, 3, and 5 throughout the period covered by this volume and from channel 4 until February 23, 1964 (TIROS VII day 249) are of value for studies involving relative measurements over a short period of time, for example, the contrast mapping of cloud systems.

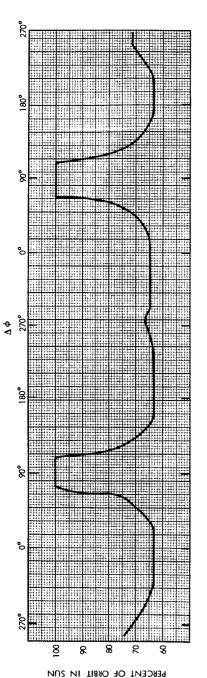


Figure 16-(a) Percent of the orbital period which the satellite spends in sunlight versus orbit number. Also shown on the upper abscissa is $\Delta \phi$, the right ascension of the sun minus the right ascension of the orbital ascending node.

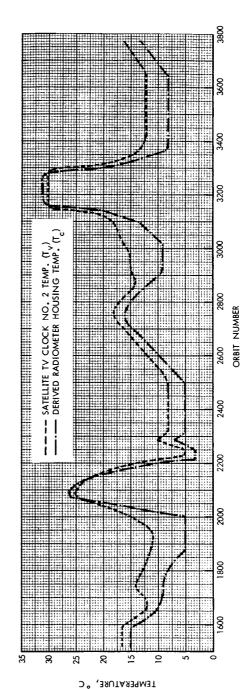


Figure 16—(b) Television clock number 2 temperature $(T_{\rm t})$, and derived radiometer housing temperatures $(T_{\rm c})$ versus orbit number. Telemetry of the "housekeeping information" for the radiometer ceased at orbit 1276, after which $T_{\rm c}$ was derived from $T_{\rm r}$.

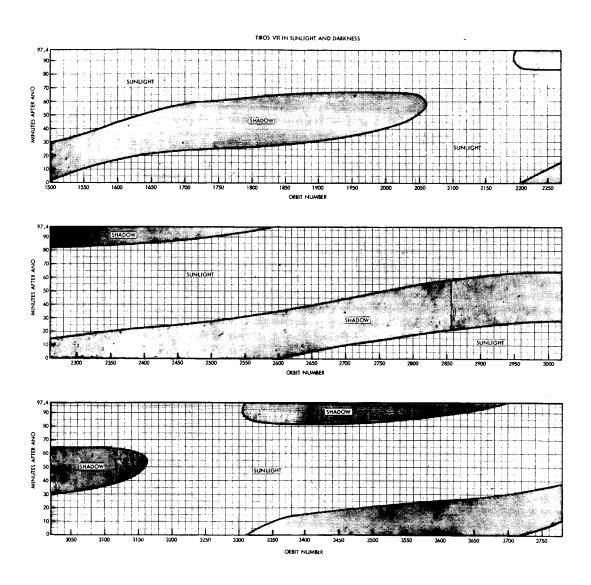
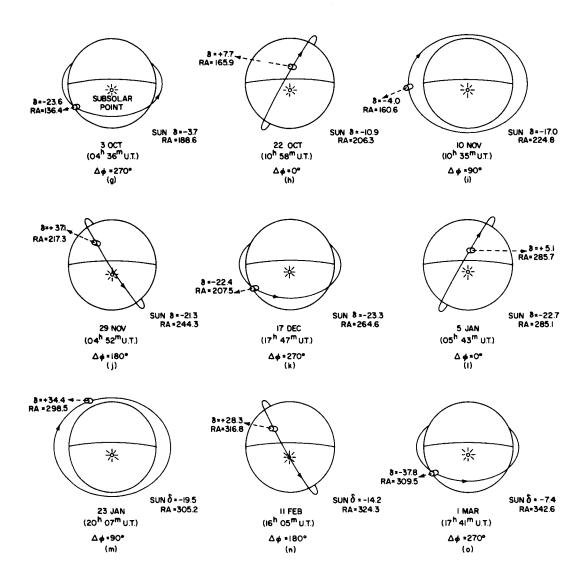


Figure 18—Portions of the 97.4-minute orbital period when the satellite is in sunlight and in the Earth's shadow, expressed in minutes after the ascending node, versus orbit number.



ALL CALENDAR DATES ARE IN 1963 AND 1964

Figure 66—(g, h, i, j, k, l, m, n, and o) Heliocentric views of the Earth and the precessing TIROS VII orbital plane. The celestial coordinates of the sun and the satellite spin vector are shown for each selected day. The time is given to the nearest minute and corresponds to the given value of $\Delta \phi$.

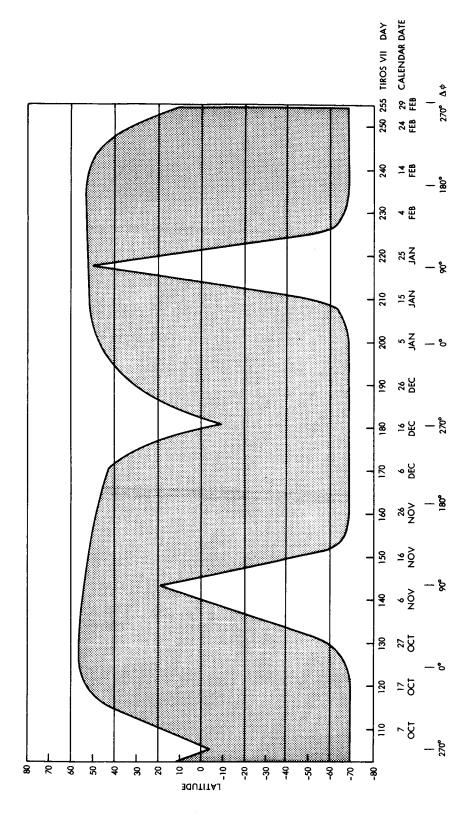


Figure 67-Solar illuminated latitudes for TIROS VII.

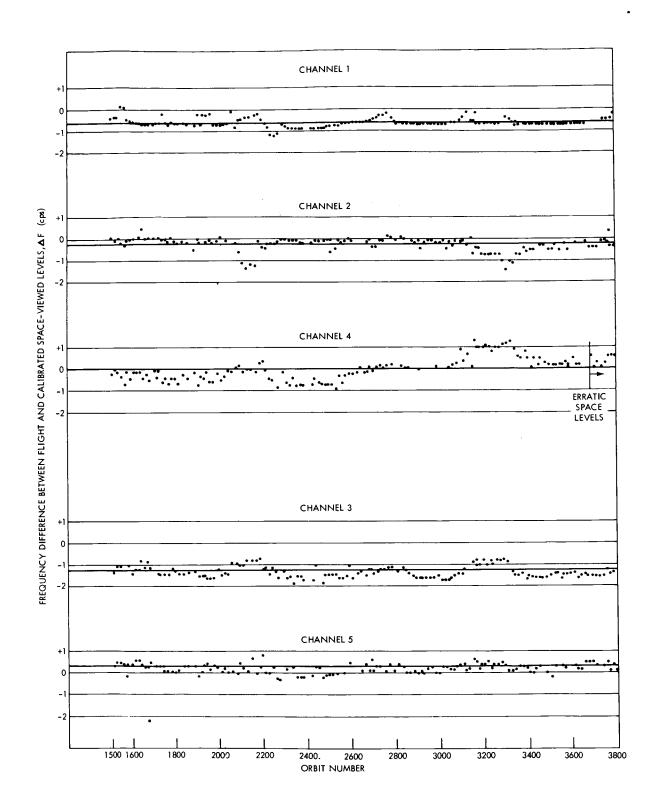


Figure 68—Frequency difference between flight and calibrated space-viewed levels vs. orbit number for channels 1 to 5.

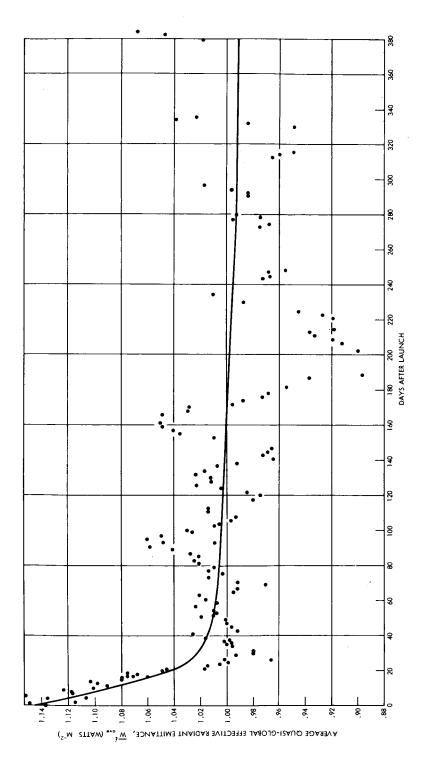


Figure 70—The average quasi-global effective radiant emittance, $\overline{W}^{'}{}_{av}$ for channel 1 vs. days after launch.

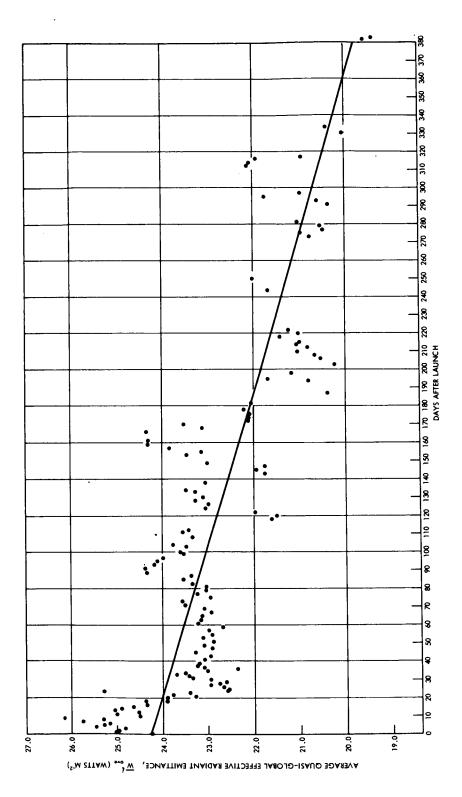


Figure 71—The average quasi-global effective radiant emittance, \overline{W}^{*} . for channel 2 vs. days after launch.

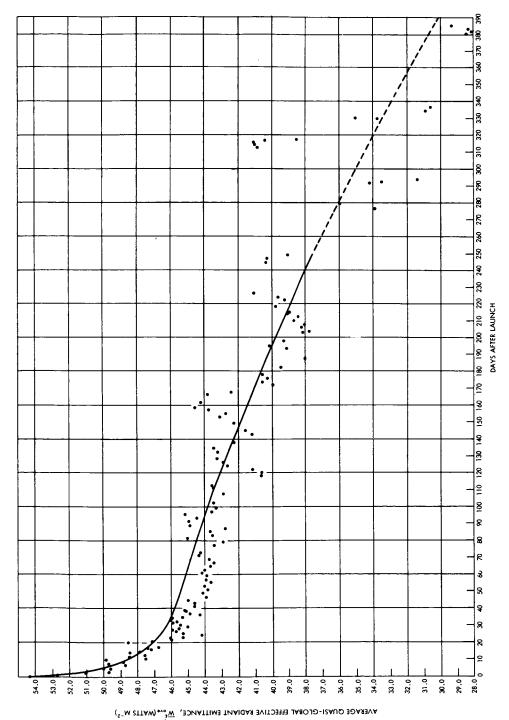


Figure 72—The average quasi-global effective radiant emittance, $\overline{W}'_{\text{es}}$ for channel 4 vs. days after launch. A dashed line follows day 249 when an erratic "stepped" characteristic was first noticed in the space-viewed portions of the analog presentations of the data.

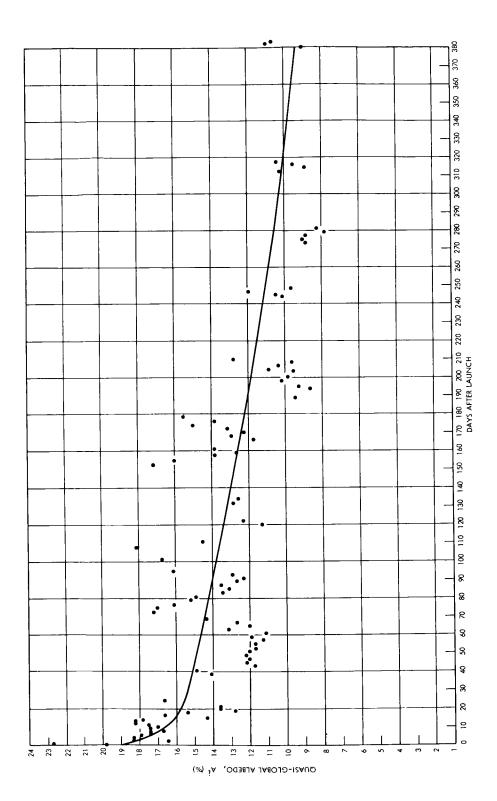


Figure 73-The quasi-global albedo, A' for channel 3 vs. days after launch.

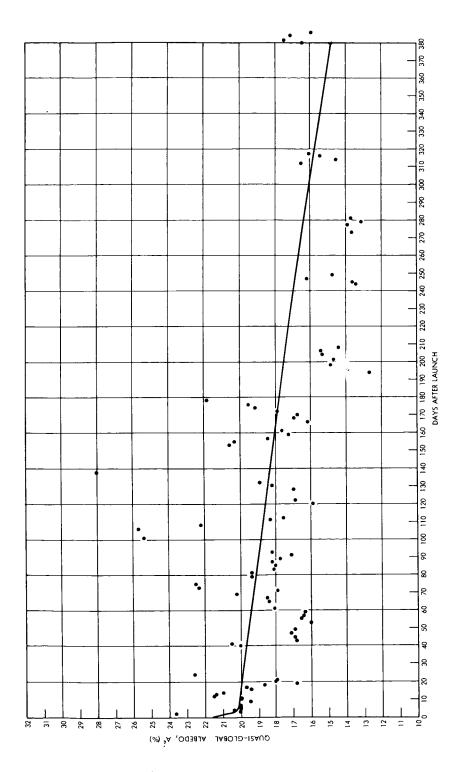


Figure 74—The quasi-global albedo A' for channel 5 vs. days after launch.

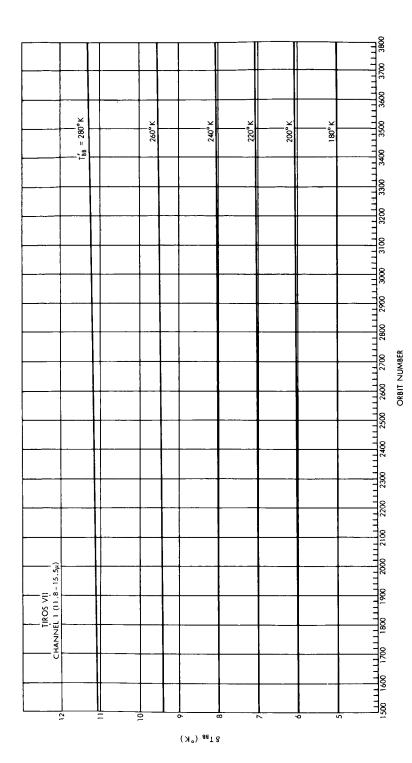


Figure 77—Temperature corrections δT_{BB} , vs. orbit number, channel 1, both sides. An equivalent blackbody temperature measurement, T'_{BB} , should be corrected by adding the δT_{BB} value corresponding to the appropriate orbit number (There is some evidence that, in addition to the nomogram corrections, approximately 2.5°K should be subtracted from measurements made through the floor and added to measurements made through the wall of channel 1.)

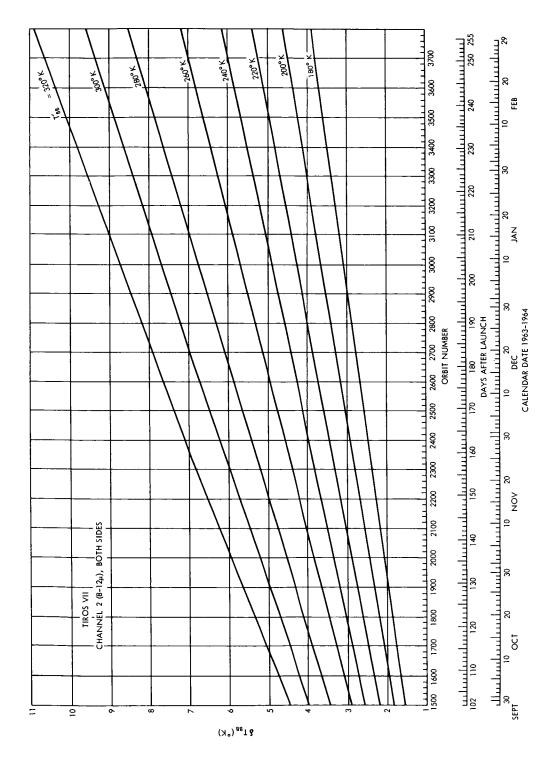


Figure 78—Temperature corrections δT_{nn} , vs. orbit number, channel 2, both sides. An equivalent blackbody temperature measurement T_{nn} should be corrected by adding the δT_{BB} value corresponding to the appropriate orbit number.

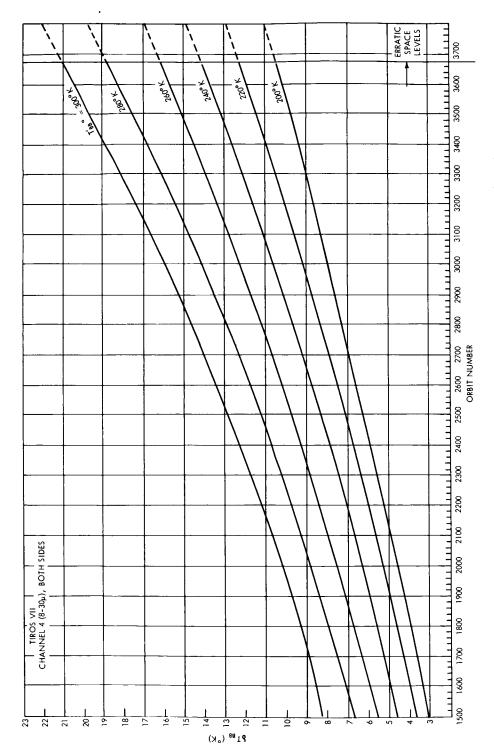


Figure 79—Temperature corrections δT_{nn} vs. orbit number, channel 4, both sides. An equivalent blackbody temperature measurement T_{nn} , should be corrected by adding the δT_{nn} value corresponding to the appropriate orbit number.

(There is some evidence that, in addition to the nomogram corrections, after day 180, or orbit 2656, approximately 3.5°K should be substracted from measurements made through the floor and added to measurements made through the wall of channel 4. During the onset period between orbits 2073 and 2656, this additional correction should be varied linearly from 0° to 3.5° K. After day 249, or orbit 3677, corrections are not considered valid because of erratic behavior.)

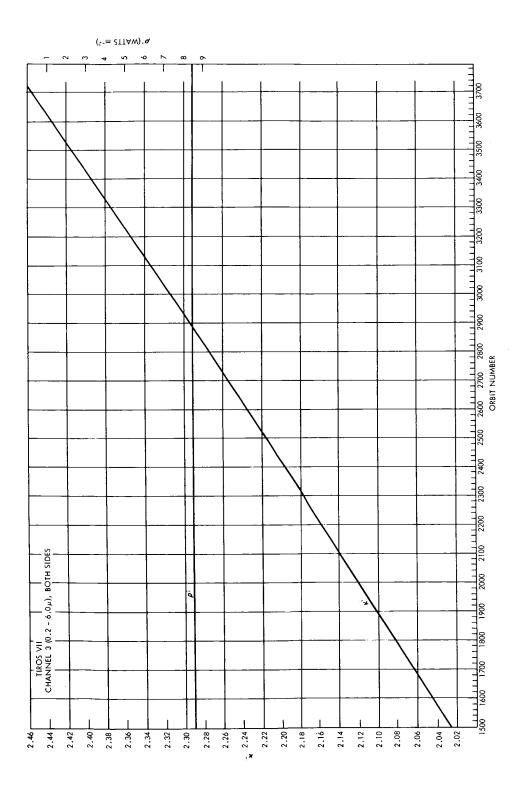


Figure 80—Normalizing parameters κ' and ρ' for channel 3. A measurement \overline{W}' should be corrected to yield \overline{W} by means of the equation $\overline{W} = \kappa'$ ($W' + \rho'$).

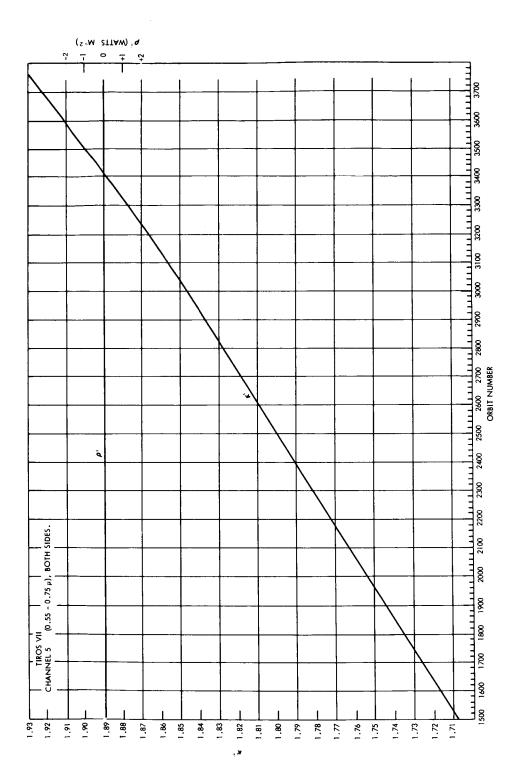


Figure 81—Normalizing parameters κ' and ρ' for channel 5. A measurement \overline{W}' should be corrected to yield \overline{W} by means of the equation $\overline{W}_{\cdot} = \kappa'$ ($\overline{W}' + \rho'$).

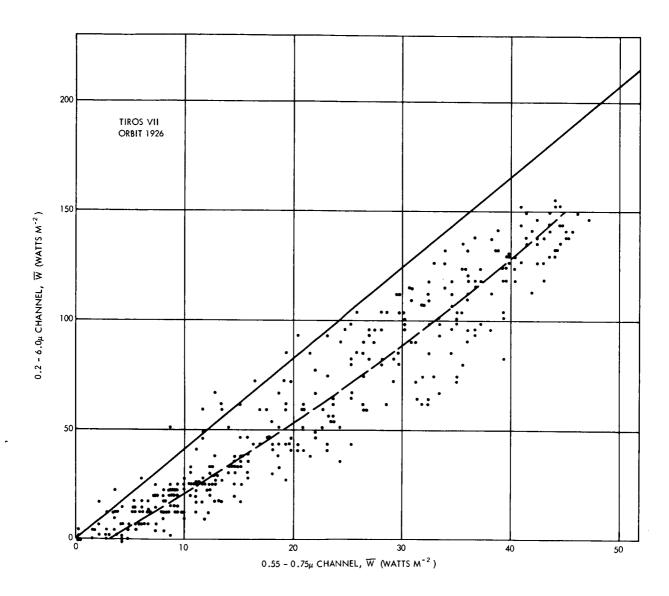
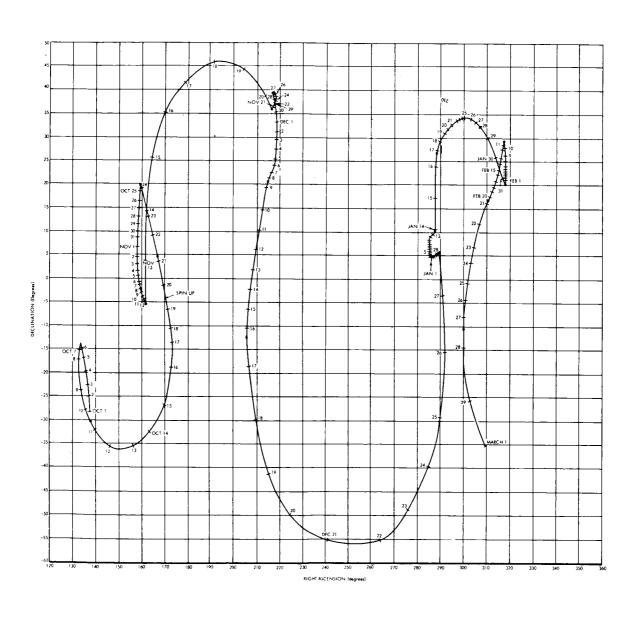


Figure 82—Scatter diagram of effective radiant emittance measurements from channels 3 (ordinate) and 5 (abscissa) of TIROS VII, illustrating the effects of a shift in the oscillator transfer function. The data shown are not normalized and are from 16 swaths over hurricane Ginny and adjacent ocean areas, orbit 1926, 27 October 1963. The solid line is the locus of equal fractional parts of the effective solar constant, \overline{W}^* for each channel. The dashed line intersects the ordinate at approximately $(-\rho') \sim (-8.5)$ watts/m². There is also slight evidence of a rotation of the oscillator transfer function and/or relatively greater symmetrical optical degradation in channel 3 than in channel 5.

APPENDIX A INDEX OF FINAL METEOROLOGICAL RADIATION TAPES

One hundred forty-seven tapes, containing data from 762 individual orbits of TIROS VII from October 1, 1963 to February 29, 1964 are tabulated on the following pages. The FMR tapes from this period are numbered from 438 to 584. The nomenclature used in the Index and an example illustrating the use of the Index is given in Appendix A, Volume 1.



 $Figure~A1 — Observed~motion~of~the~TIROS~VII~spin~vector~on~the~celestial~sphere.\\ Each~subdivision~represents~one~day.~Positions~at~12~GMT~each~day~are~indicated.$

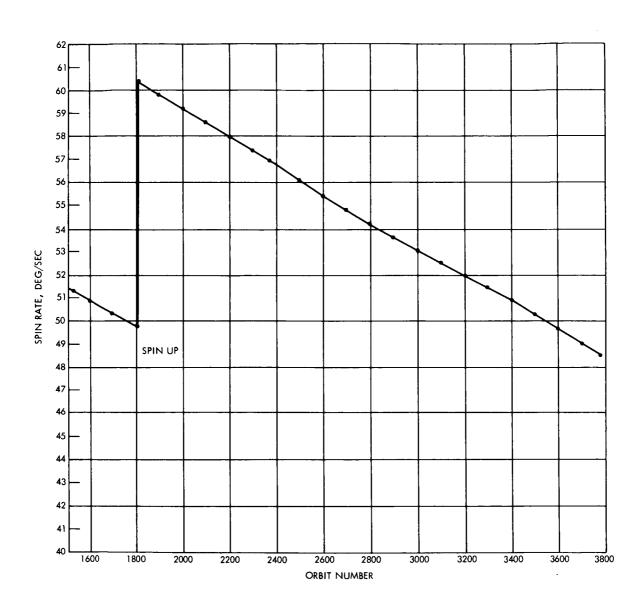


Figure A2-Time history of the TIROS VII spin rate.

	1 !	REACOUT	our				ORBIT			TIME I	INTERVAL OF	FILE	ON FMR TA	APE	
SATELLITE ECL ORBITAL ASCEN	TE ECL ASCEN	JAT(CROSS IN	IG AT	SPIN	VECTOR	ATTITUDE	TUDE		BEGIN	N	O	DROPOUTS	JTS,	•
EARTH HOUR	HOUR	S. S.	CAL ENDAR	TIROS	DECL I	RIGHT	MINI	TOT	SPIN	MINU -TES	HOURS	MINU	W/R/T	ANO	FMR
TUDE SECCNDS (GMT)	SECCN	SC	DATE	DAY	-T10N (DEG)	-SI ON (DEG)	NADIR (DEG)	AFTER AND)	(DEG /SEC)	W/R/T AND	SECONDS (GMT)	W/R/T AND	FROM-	T 0-	REEL NO.
-96.64 0*57*5	0*57*	51	10/ 1/63	104	-29.7	137.2	-6.3	9*69	51,305	-84.0	1* 9*12	11.4			438
121.31 2.35*1	2*35*1	9	10/ 1/63	104	-29.5	137.2	9-9-	9.65	51.300	-75.3	2*49* 3	13.8			438
145.98 4*12*40	4*12*	0,	10/ 1/63	104	-29.3	137.2	6.9-	9.69	51.294	-72.7	4*22* 3	4.6			438
164.66 7*27*30	7*27*	35	10/ 1/63	104	-29.0	137.3	-7.5	59.7	51,283	-63.5	7*46* 3	18.6			438
139.99 9* 4*	* 4	54	10/ 1/63	104	-28.8	137.3	7.7-	59.7	51.278	-21.5	9*26* 3	21.2			438
115.31 10*42*	10*42*	19	10/ 1/63	104	-28.7	137.3	-8.0	59.7	51.272	19.7	11+ 7+ 3	24.7			438
90.64 12*19*	2*19	43	10/ 1/63	104	-28.4	137.2	-8-3	59.7	51.266	-57.2	12+55+ 3	35.3			438
-82.06 23*41*	*	35	10/ 1/63	104	-27.0	136.8	-10.2	9.69	51.228	-87.2	23*51* 3	9.5			439
106.73 1*19*	1+19+	ဝ	10/ 2/63	105	-26.8	136.8	-10.5	9.65	51.222	-76.5	1*31* 3	12.1			439
131.40 2*56*;	*	54	10/ 2/63	105	-26.6	136.8	-10.8	59.7	51.217	-74.3	3* 4* 3	7.7			439
156.08 4*33*4	4*33*	64	10/ 2/63	105	-26.4	136.8	-11.1	2.65	51.211	-77.1	4*45* 3	11.2			439
154.57 7*48	* 48	*38	16/ 2/63	105	-26.1	136.9	-111.7	2.65	51.201	-62.2	8 8 8 3	19.4			439
129.89 9*26*	* 26	7	10/ 2/63	105	-25.9	136.9	-12.0	59.8	51.195	-66.7	9*48* 3	22.0			439
105.22 11# 3#	*	127	10/ 2/63	105	-25.7	136.9	-12.3	59.8	51.190	-64.8	11*38* 3	34.6			439
80.54 12*40*	12*40*	51	10/ 2/63	105	-25.4	136.8	-12.6	59.7	51.184	-51.3	13*18* 3	37.2			439
-92.16 0* 2*4	0* 2*	43	10/ 3/63	106	-23.9	136.4	-14.5	59.7	51.146	-85.3	0*12* 3	6.6			440
116.83 1*40*	1*40*	80	10/ 3/63	106	-23.7	136.4	-14.8	59.7	51.151	-76.7	1*53* 3	12.9			440
141.50 3*17*3	3*17*	32	10/ 3/63	106	-23.6	136.5	-15.1	59.7	51.145	-71.2	3*26* 3	8.5			440
119.79 9*47*11	9*47*	11	16/ 3/63	106	-22.8	136.5	-16.3	59.7	51.121	-53.5	10*11* 3	23.9			077
95.12 11+24+	11*24*	35	10/ 3/63	106	-22.6	136.5	-16.6	59.7	511.115	-62.1	12* 3* 3	38.5			440
102.25 0+23+5	0*23*	51	10/ 4/63	101	-20.9	136.0	-18.9	59.7	51.069	-69.5	0*34* 3	10.2			441
151.60 3*38*40	3*38*	940	16/ 4/63	107	-20.5	136.1	-19.5	59.7	51.057	9.09-	3*52*28	13.8			441
159.04 6*534	S	3*30	10/ 4/63	107	-20.1	136.1	-20.1	59.8	51.045	6*65-	7*25* 3	31.6			441
134.37 8#30#54	*	54	10/ 4/63	101	-19.9	136.1	-20.5	59.8	51.040	-53.8	8 *9 *6	35.2			441
109.70 10* 8*19	*8 *J1	19	10/ 4/63	107	-19.7	136.1	-20.8	59.8	51.034	-51.4	10*43* 3	34.7			441
-112.35 C*44*59	C*44*	29	10/ 5/63	108	-17.7	135.7	-23.5	59.8	50.982	-78.4	0*57* 3	12.1			445

		MR APE EEL NO.	445	42	4.2	42	442	443	43	43	43	443	777	777	444	5 5 7 5 7 7 7 7 7 7 7 7 7 7	5 4 7	777	445	445	445	445	445	446	944	446	. 944	944
		TAPE	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	7	4	,	7	`	•	•	•	7
TAPE	2.3	- TD-																										
ON FMR	CROPOUT	FROM-																										
FILE 0	٥	MINU -TES W/R/T ANO	8.7	13.2	33.4	37.5	34.6	10.3	14.9	6.5	30.7	34.3	7.8	11.4	19.6	36.2	34.8	37.3	9.5	13.1	6.1	17.8	34.4	10.4	6.9	10.5	31.7	35.3
NTERVAL OF	Z W	HOURS MINUTES SECONDS (GMT)	2*31* 3	4*13* 3	7*48* 3	9*29*33	11* 4* 3	23*39* 3	1*21* 3	2*53* 3	6*29* 3	8*10* 3	1*35* 3	3*16* 3	6*39* 3	8*33* 3	10* 9* 3	11*49* 3	22*43* 3	0*24* 3	1*58* 3	5*21* 3	7*15* 3	23* 5* 3	0*39* 3	2*20* 3	5*56* 3	7*37* 3
TIME IN	BEGIN	MINU -TES W/R/T	-74.8	-77.9	-66.5	-53.0	-49.2	-75.6	-74.7	-70.9	-63.3	-54.4	-78.9	-78.3	-63.2	-69.5	-51.8	-50.6	-29.5	-76.9	-73.7	-65.5	3.9	-4.0	-74.2	-79.9	-63.9	-54.7
		SPIN RATE (DEG /SEC)	50.976	50.971	50.959	50.953	50.948	50.902	50.897	50.891	50.880	50.874	50.813	50.807	50.796	50.790	50.785	50.779	50.740	50.735	50.729	50.718	50.713	50.658	50.653	50.647	50.636	50.631
	rube	TOT (MIN. AFTER ANO)	59.8	59.8	6.65	6*69	6*65	0.09	0.09	0.09	0.09	0.09	60.2	60.2	4.09	9.09	9.09	2.09	61.8	61.9	62.0	62.1	62.2	63.6	63.7	63.8	63.9	63.9
ORBIT	ATTITUDE	MINI NAUM (DEG)	-23.8	-24.0	-24.5	-24.7	-25.0	-26.9	-27.1	-27.4	-27.9	-28.1	-30.7	-30.4	-30.1	-30.0	-29.8	-29.6	-29.1	-29.0	-28.9	-28.6	-28.5	-27.5	-27.5	-27.4	-27.2	-27.1
	VECTOR	RIGHT ASCEN -SION (DEG)	135.6	135.6	135.6	135.6	135.5	134.9	134.9	134.8	134.8	134.8	133.8	133.6	133.3	133.2	133.2	133,3	133.8	133.8	133.6	133.3	133.2	134.3	134.2	134.1	133.9	133.9
	NIdS	DECLI -NA -TION (DEG)	-17.6	-17.4	-17.2	-17.0	-16.8	-15.6	-15.4	-15.3	-15.0	-14.9	-13.7	-13.9	-14.5	-14.8	-15.2	-15.6	-18.0	-18.2	-18.5	-18.9	-19.2	-22.4	-22.6	-22.8	-23.3	-23.6
	G AT	TIROS	108	108	108	108	108	108	109	109	109	109	110	110	110	110	110	110	110	111	111	111	111	111	112	112	112	112
	CROSSING	CALENDAR	/ 5/63	5/63	5/63	5/63	1 5/63	5/63	6/63	6/63	1 6/63	(6/63	/ 7/63	/ 7/63	/ 7/63	/ 7/63	1163	/ 7/63	/ 7/63	1 8/63	/ 8/63	/ 8/63	/ 8/63	/ 8/63	1 9/63	/ 9/63	1 9/63	/ 9/63
REACOUT	1	3	101	10	8 10	10/	10/	3 10/	8 10/	2 10/	1 10/	10/	10/	10/	/21 6	4 10/	B 10/	3 10/	5 10/	6 10/	4 10/	3 10/	/01 /	2 10/	7 10/	2 10/	1 10/	7 10/
REA	TE ECUATOR ASCENDING	HOURS FINUTES SECCNDS	2#22#24	3*59*49	7*14*38	8*52* 2	10+29+27	23#28#43	1* 6* 8	2*43*32	5+58+2]	7*35*46	1*27*16	3* 4*40	6*19*29	7*56*5	9#34#18	11*11*4	22*33*3	C*10*5	1*48*2	5* 3*1	6*40*37	22*54*4	0+32+	2* 6*3	5*24*2	7* 1*4
	SATELLI	EARTH LCNGI -TUDE (DEG)	-137.02	-161.70	148.95	124.27	09.66	-97.78	-122.45	-147.12	163.52	138.85	-132.54	-157.21	153.43	128.75	104.08	79.41	-93.29	-117.98	-142.65	167.99	143.32	-103.40	-128.07	-152.75	157.89	133.22
		CDA	7	2	7	-	2		-	2	-		2	2	٣	-	2	2	-	1	2	٣		-	2	2	1	-
		ORBIT NO.	1592	1593	1595	1596	1597	1605	1606	1607	1609	1610	1621	1622	1624	1625	1626	1627	1634	1635	1636	1638	1639	1649	1650	1651	1653	7571

	•	FMR TAPE REEL NG.	446	447	447	447	447	447	447	448	844	448	448	448	67+	644	644	644	677	644	450	450	450	450	450	450	451	451
FMR TAPE	DROPOUTS, MINUTES	W/R/T ANO FROM- TO-																										
FILE ON	0	MINU -TES W/R/T	33.9	12.2	8	18.0	33.6	37.2	34.8	10.0	14.1	4.6	30.9	33.0	10.4	10.0	11.5	36.3	34.9	37.5	9.6	13.2	8.6	18.0	34.6	35.8	26.1	37.7
NTERVAL OF	7 .	HOURS MINUTES SECONDS (GMT)	9*13* 3	23*28* 3	1 * 2 * 3	4*26* 3	6*19* 3	8* 0* 3	9*35* 3	22* 9*33	23*51* 3	1*24* 3	5 + 0 + 3	8*17* 3	22*31* 3	0* 8* 3	1*47* 3	7* 4* 3	8*40* 3	10*20* 3	21*14* 3	22*55* 3	0*29* 3	3*52* 3	5*46* 3	9* 2* 3	7*36* 3	9*25* 3
TIME I	BEGIN	MINU -TES W/R/T ANO	-51.5	-78.2	-54.8	0.09-	7.69-	-53.4	-50.0	-87.2	-73.9	-13.7	-64.8	-55.8	-76.1	-75.5	-77.2	0.2	-50.0	-50.5	-86.1	4.11-	-73.3	-65.5	-18.4	-55.0	-52.1	25.7
		SPIN RATE (DEG /SEC)	50.626	50.576	50.571	50.560	50.549	50.549	50.544	50.501	50.495	50.490	50.479	50.469	50.420	50.415	50.410	50.394	50.388	50.383	50.345	50.340	50.335	50.324	50.319	50.308	50.234	50.228
	.ube	TOT (MIN• AFTER ANO)	0.49	4.59	65.4	65.6	65.7	65.7	6.59	67.0	67.2	67.2	67.4	9.19	8.69	70.0	70.1	4.07	9.07	70.7	72.6	72.8	73.0	73.2	73.2	73.6	76.4	76.6
ORBIT	ATTITUDE	MINI -MUM NADIR (DEG)	-26.9	-26.3	-26.2	-26.1	-26.0	-25.9	-25.7	-25.3	-25.3	-25.2	-25.1	-24.9	-23.4	-23.4	-23.4	-22.9	-22.6	-22.3	-21.9	-22.0	-22.1	-22.2	-22.2	-21.8	-22.6	-22.4
	VECTOR	RIGHT ASCEN -SION (DEG)	133.9	135.5	135.5	135.3	135.3	135.3	135.4	137.4	137.4	137.4	137.4	137.6	143.4	143.7	143.8	144.4	144.9	145.8	151.5	151.9	152.1	152.5	152.7	154.0	162.0	162.8
	SPIN	DECLI -NA -TION (DEG)	-23.9	-26.3	-26.5	-26.8	-27.1	-27.4	-27.7	-29.5	-29.6	-29.7	-30.0	-30.8	-33.8	-33.9	-34.1	-34.9	-35.4	-35.7	-36.2	-36.1	-36.0	-36.0	-36.2	-36.6	-34.2	-34.1
	NO)		112	11/2	113	113	113	113	113	113	113	114	114	114	114	114	115	115	115	115	115	115	116	116	116	116	117	117
UT	R CROSSING G NODE (A	ALENDAR	10/ 9/63	10/ 9/63	10/10/63	10/10/63	10/10/63	10/10/63	10/10/63	10/10/63	10/10/63	10/11/63	10/11/63	10/11/63	10/11/63	10/11/63	10/12/63	10/12/63	10/12/63	10/12/63	16/12/63	10/12/63	10/13/63	10/13/63	10/13/63	10/13/63	16/14/63	10/14/63
REACOUT	ITE ECUATOR ASCENCING	HOURS FINCTES SECCNDS (GMT)	8+39+10	23*15*50	C*53*15	7 *8 *5	5*45*28	7*22*53	5* 0*18	21*59*34	23*36*58	1*14*23	4*29*12	7*44* 1	22*20*42	23*58* 6	1*35*31	6*27*44	8 5 4 9	5*42*33	21* 4*25	22*41*49	C*19*14	3*34* 3	5*11*27	£*26*16	7*10* G	8*47*24
	SATELLI	EARTH LCNGI -TUDE (DEG)	108.55	-113.50	-158.17	172.47	147.85	123.13	98.45	-98.92	-123.59	-148.27	162.38	113.03	-109.01	-133.69	-158.36	127.61	102.93	78.26	-94.44	-119.11	-143.78	166.86	142.19	95.84	107.42	82.75
		CDA	2	1	2	٣		,	2	-	-	2	-	2	-	2	2	~	2	2	~	-	2	٣		2	€	2
	•	ORBIT	1655	1684	1665	1667	1668	1669	1670	1678	1673	1680	1682	1684	1693	1694	1695	1698	1639	1700	17071	1708	1709	1711	1712	1714	1728	1729

READOUT FE EQUATOR CROSSING AT SPIN VECTOR	READOUT FE EQUATOR CROSSING AT SPIN VECTOR	READOUT FE EQUATOR CROSSING AT SPIN VECTOR	CROSSING AT SPIN VECTOR	AT SPIN VECTOR	PIN VECTOR	ECTOR	5	ORBIT	TUDE		TIME IN	NTERVAL OF	FILE O	ON FMR TAPE DROPOUTS.		
AL ASCENDING NODE (AND) HOURS CALENDAR TIROS	ASCENCING NODE (ANO) HOURS CALENDAR TIROS	ASCENCING NODE (ANO) HOURS CALENDAR TIROS	NODE (ANO)	10) FIROS	DE	173	RIGHT	MINI	101	NIds	+	HOURS	UNIE	MINUTES W/R/T AND		FMR
STA -TUDE SECCNDS DATE DAY -TIDN (DEG) (GMT)	LCNGI MINUTES -TUDE SECCNDS DATE DAY (DEC) (GMT)	PINUTES SECCNDS DATE DAY (GMT)	DAY		-NA -110	Z 🙃	ASCEN -SION (DEG)	NADIR (DEG)	AFTER AND)	(DEG /SEC)	W/R/T AND	SECONDS (GMT)	W/R/T AND	FROM- TO	1	REEL NO.
20* 9*16 10/14/63 117 -31.	89.95 20* 9*16 10/14/63 117 -31.	C* 9*16 10/14/63 117 -31.	117 -31.	7 -31.	31.		167.6	-23.2	78.5	50.191	-85.6	20*19* 3	9.8			452
1 -114.63 21*46*40 10/14/63 117 -30.	114.63 21*46*40 10/14/63 117 -30	46*40 10/14/63 117 -30	3 117 -30	7 -30	30	• 2	167.7	-23.5	78.7	50.186	-77.3	21*59* 3	12.4			452
2 -139.39 23*24* 5 10/14/63 117 -30	139.37 23*24* 5 10/14/63 117 -	3*24* 5 10/14/63 117 -	63 117 -	- 71	-30	٠,	167.8	-23.9	78.9	50.181	-72.5	23*33* 3	9.0			452
2 -164.00 1* 1*29 10/15/63 118 -29	164.C0 1* 1*29 10/15/63 118 -2	* 1*29 10/15/63 118 -2	3 118 -2	8 -2	7	1.7	167.8	-24.2	19.0	50.175	-75.3	1*15* 3	13.6			452
3 171,31 2*38*54 10/15/63 118 -2	.31 2*38*54 10/15/63 118 -2	38*54 10/15/63 118 -2	118 -2	8 -2	-2	4.6	167.8	-24.5	79.1	50.170	-73.2	2*57* 3	18.2			452
1 146.64 4*16*18 10/15/63 118 -29	4*16*18 10/15/63 118 -2	10/15/63 118 -2	118 -2	8 -2	2	9.2	167.9	-24.7	79.2	50.165	-69.1	4*50* 3	33.8			452
3 121,97 5*53*43 10/15/63 118 -29	97 5*53*43 10/15/63 1182	3 10/15/63 118 -2	3 118 -2	18 -2	~	0.6	168.1	-24.8	79.3	50.159	-53.9	6*17* 3	23.3			452
3 97.29 7*31* 7 10/15/63 118 -2	-29 7*31* 7 10/15/63 118 -2	7 10/15/63 118 -2	5/63 118 -2	18 -2	-2	8 .8	168.6	-24.8	79.5	50.154	-59.7	7*57* 3	25.9			452
1 -100.08 20*30*24 16/15/63 118 -2	100.08 20*30*24 16/15/63 118	4 16/15/63 118 -	3 118 -	18 -		4.2	171.9	-26.2	81.4	50.112	-77.	20*40* 3	6.1			453
1 -124.75 22* 7*48 10/15/63 118 -2	124.75 22* 7*48 10/15/63 118 -	2* 7*48 10/15/63 118 -	3 118 -	18 -		3.6	171.9	-26.7	81.6	50.106	-74.5	22*23* 3	15.3			453
2 -149,42 23*45*13 10/15/63 118 -2	149.42 23*45*13 10/15/63 118 -2	3*45*13 10/15/63 118 -2	3 118 -2	18 -2	2	3.1	171.7	-27.1	81.7	50.101	-72.2	23*55* 3	8.6			453
1 161.22 3* 0* 2 10/16/63 119 -22	.22 3* 0* 2 16/16/63 119 -	0* 2 10/16/63 119 -	3 119 -	,		2.3	171.4	-27.8	81.9	50.090	-65.1	3*31* 3	31.0			453
1 136,55 4*37*26 10/16/63 119 -2	.55 4*37*26 10/16/63 119 -	6 10/16/63 119 -	3 119 -	- 61		2.3	171.4	-28.1	82.0	50.085	-56.3	5*12* 3	34.6			453
3 111.87 6*14*51 10/16/63 119 -21	.87 6*14*51 10/16/63 119 -	51 10/16/63 119 -	3 119 -	- 61	-2	1.7	171.6	-28.2	82.1	50.080	-53.2	6 * 40 * 3	25.2			453
2 -134.85 22*28*56 10/16/63 119 -1	134.85 22*28*5¢ 1C/16/63 119 -	10/16/63 119 -	3 119 -	- 61	-1	5.4	173.4	-30.9	84.3	50.026	-79.2	22*37* 3	8.1			424
2 -159.52 C* 6*20 1C/17/63 120 -1	159.52 C* 6*20 1C/17/63 120	* 6*20 10/17/63 120	63 120	20	7	5.2	173.3	-31.2	84.5	50.021	-78.8	0*18* 3	11.7			454
3 175,80 1*43*45 10/17/63 120 -1	5.80 1*43*45 10/17/63 120 -	*43*45 10/17/63 120 -	63 120 -	- 02	7	5.1	173.2	-31.3	84.5	50.016	-75.0	2* 2* 3	18.3			454
3 126.45 4*58*34 10/17/63 120 -1	5 4*58*34 16/17/63 120 -	+58*34 16/17/63 120 -	120 -	- 02	-	4 • 8	173.0	-31.4	84.6	50.03	-57.4	5+21+ 3	22.5			454
1 -95.60 19*35*14 10/17/63 120 -1	.60 19*35*14 10/17/63 120	9+35+14 10/17/63 120	3 120	20	-1	2.5	173.1	-31.6	85.7	156.65	-76.7	19*45* 3	8.6			455
1 -120.27 21*12*39 10/17/63 120 -1	- 21 21*12*39 10/17/63 120 -	10/17/63 120 -	3 120 -	1	-	2.3	173.0	-31.7	85.8	49.952	-76.2	21*26* 3	13.4			455
2 -144.94 22*50* 3 10/17/63 120 -12	.94 22*50* 3 10/17/63 120	50* 3 10/17/63 120	3 120 -	•	7	2.1	172.8	-31.8	85.8	49.946	-73.9	23* 0* 3	10.0			455
3 165.70 2* 4*52 10/18/63 121 -11	.70 2* 4*52 10/18/63 121 -	4*52 10/18/63 121 -	3 121 -	ı	-11	۲.	172.5	-32.0	85.9	49.936	-65.4	2*23* 3	18.2			455
	.02 3*42*17 10/18/63 121	10/18/63 121	8/63 121		7	1.6	172.4	-32.1	86.0	49,930	-68.6	4* 4* 3	21.8			455
116.35 5*19*41 10/18/63 121 -	-35 5*19*41 10/18/63 121 -	*19*41 10/18/63 121 -	63 121 -	21 -	1	11.4	172.3	-32.1	86.0	49.925	-64.3	5*43* 3	23.4			455
-81.(2 16*18*57 10/18/63 121	.(2 16*18*57 10/18/63 121	10/18/63 121	121	_		-9.5	172.3	-32,3	86.9	49.882	-69.5	18*30*34	11.6			456,
1 -105.70 15*56*22 10/18/63 121 -	15*56*22 10/18/63 121	10/18/63 121	121		•	-8.9	172.2	-32.4	87.0	49.877	-75.7	20* 8* 3	11.7			456

	•	FMR TAPE REEL NO.	456	456	456	456	456	457	457	457	457	457	458	458	458	458	458	458	458	459	460	460	094	760	460	461	461	461
N FMR TAPE	DROPOUTS, MINUTES	W/R/T ANO																										
FILE ON	٥	MINU -TES W/R/T ANO	8.3	16.9	19.1	22.7	34.2	13.6	9.2	50.9	23.5	36.1	6.6	4.9	16.0	19.2	34.8	33.4	37.0	20.1	9.2	18.4	21.0	25.0	35.2	8.3	11.9	7.5
INTERVAL OF	Z W	HOURS MINUTES SECONDS (GMT)	21*42* 3	23*22* 3	2*45* 3	4*26* 3	6*15* 3	20*31* 3	22* 4* 3	3* 8* 3	4*48* 3	6*38* 3	19*11* 3	20*46*33	22*26* 3	1*50* 3	3*43* 3	5*19* 3	7* 0* 3	2*12* 3	21*30* 3	0*54* 3	2*34* 3	4*15*27	6 * 3 * 3	16*58* 3	18*39* 3	20*12* 3
TIME I	BEGIN	MINU -TES W/R/T ANO	T. 4T-	0.61-	-64.5	-27.2	-64.2	-20.5	-70.8	-65.5	-66.5	-55.5	-73.4	-73.8	6.61-	-65.1	-68.0	.52.5	-53.7	-62.6	-72.7	-66.0	-68.8	-66.0	-61.5	-88.1	-77.7	-74.9
		SPIN RATE (DEG /SEC)	49.871	49.866	49.855	49.850	49.845	60.395	956.09	966.09	60.395	60.394	60.371	60.367	60.362	60.352	60.347	60.341	60.335	60.254	60.166	60.153	60.146	60.140	60.133	60.09	060.09	983-09
	rube	TOT (MIN. AFTER ANO)	87.1	87.2	87.4	87.4	87.5	88.5	88.6	88.8	88.9	89.0	6.68	0.06	90.1	90.3	90.3	90•3	50.	7.16	93.3	93.5	93.6	93.7	93.8	94.8	0*56	95.1
ORBIT	ATTITUD	MINI -MUM NADIR (DEG)	-32.5	-32.6	-32.8	-32.9	-32.9	-33.2	-33.3	-33.5	-33.6	-33.6	-33.9	-34.0	-34.2	-34.4	-34.5	-34.5	-34.5	-35.7	-37.3	-37.8	-37.9	-38.1	-38.2	-39.0	-39.2	-39.4
	VECTOR	RIGHT ASCEN -SION (DEG)	172.0	171.9	171.5	171.4	171.3	171.0	170.9	170.3	170.2	170.2	169.8	169.6	169.4	169.0	168.9	168.8	168.7	167.1	165.4	164.8	164.5	164.3	164.2	163.3	163.0	162.7
	NIdS	DECLI -NA -TION (DEG)	-8.7	-8.5	-8.1	-8.0	-7.8	-5.2	-5.0	-4.5	-4.3	-4.1	-1.6	-1.3	-1.0	9.0-	+. 0-	-0-3	•	3.9	8.7	9.3	9.6	6.6	10.2	13.4	13.8	14.2
	AT AT	TIROS	121	121	122	122	122	122	122	123	123	123	123	123	123	124	124	124	124	125	125	126	126	126	126	126	126	126
	CROSSING NODE (A	ALENDAR	10/18/63	10/18/63	10/19/63	10/19/63	10/19/63	10/19/63	10/19/63	10/20/63	16/20/63	10/20/63	10/20/63	10/20/63	10/20/63	10/21/63	10/21/63	10/21/63	10/21/63	10/22/63	10/22/63	10/23/63	10/23/63	10/23/63	10/23/63	10/23/63	10/23/63	10/23/63
REACOUT	TE EQUATOR ASCENDING	HOURS MINUTES SECCNDS (GMT)	21+33+46	23*11*11	2*26* 0	4* 3*24	2*40*49	20*17*29	21*54*54	2*47* 7	4*24*32	6* 1*56	19* 1*12	20+38+37	22*16* 1	1+30+50	3* 8*15	4*45*39	6*23* 4	1*51*57	21*20*51	C+35*40	2*13* 5	3*50*29	5*27*54	16*49*45	18*27* 9	20* 4*34
	SATELLI	ARTH CNGI TUDE DEG)	-130.37	-155.04	155.60	130.93	106.26	-115.79	-140.46	145.51	120.83	96.16	-101.21	-125.89	-150.56	160.09	135.41	110.74	86.66	149.99	-146.08	164.57	139.89	115.22	90.55	-82.15	-106.83	-131.50
		CDA	2	2	κ	6	2		2	٣	3	2	-	2	2	m	-	2	7	m	2	ĸ	٣	6	2	7		2
		ORBIT VO.	1796	1797	1799	1800	1801	1810	1811	1814	1815	1816	1824	1825	1826	1828	1829	1830	1831	1843	1855	1857	1858	1859	1860	1867	1868	1869

		FMR TAPE	REEL NO.	461	461	461	461	462	462	797	462	797	463	463	463	463	463	463	463	494	494	494	494	464	494	797	465	
TAPE	DROPOUTS, MINUTES	/T AND	-01																									
ON FMR	DROF	ᆛ	FROM	m	6	S.	0	8	4	2	-	m	9.	7	E	4	•	9	2	6	2	ις.	_	es.	6	2	7	
FILE	Q .	MINU -TES	W/R/T ANO	19.	22.	34.	37.	12.	16.	20.	24.1	35.	10.	•	12.	18.	22.	24.	37.	6	13.	80	13.	20.	22.	36.	12.	
NTERVAL OF	N.	HOURS MINUTES	SECONDS (GMT)	1*16* 3	2*57* 3	4*46* 3	6*26* 3	19* 1* 3	20*36* 3	1*38* 3	3*19*27	5 * 8 * 3	17*42*33	19*16* 3	20*59* 3	0*20* 3	2* 1* 3	3*41* 3	5*31* 3	16*25*33	18* 6*33	19*39* 3	21*21* 3	0*43* 3	2*23* 3	4*14* 3	16*49*33	
TIME IN	BEGIN	MINU	W/R/T ANO	-17.1	-67.7	8.64-	-52.9	-81.1	-74.5	-52.4	-66.8	-61.4	-73.4	-73.5	9.61-	-62.7	-68.3	-65.3	-61.1	-87.1	-77.5	-73.4	-78.1	-62.4	9.99-	-62.2	-75.3	
		SPIN	(DEG /SEC)	60.03	60.072	60.032	60.026	59.977	59.971	59,952	59.946	59.940	59.890	59.883	59.877	59.864	59.858	59.851	59.845	59.800	59.793	59.787	59.781	59.768	59.761	59.755	59.703	
	TUDE	TOT (MIN.	AFTER AND)	95.4	95.5	95.6	7.56	6.96	97.0	97.1	97.1	97.1	97.0	97.0	97.0	97.0	97.0	97.0	97.0	6.96	6.96	6.96	97.0	97.0	97.0	6.96	6.96	
ORBIT	ATTIT	I N I W I	NADIR (DEG)	-40.1	-40.3	-40.4	-40.5	-41.6	-41.4	-40.8	9.04-	-40.3	-38.2	-37.9	-37.7	-37.1	-36.8	-36.6	-36.3	-34.5	-34.2	-33.9	-33.7	-33.1	-32.9	-32.6	-30.5	
	VECTOR	RIGHT	-SION (DEG)	161.8	161.5	161.3	161.1	159.9	159.9	159.8	159.8	159.8	159.6	159.6	159.6	159.6	159.6	159.6	159.6	159.4	159.4	159.4	159.4	159.4	159.4	159.4	159.2	
	SPIN	DECL I	-T10N (DEC)	15.1	15.4	15.7	16.1	19.4	19.3	19.1	19.0	18.9	17.8	17.6	17.5	17.3	17.2	17.1	16.9	15.9	15.8	15.7	15.5	15.3	15.2	15.1	13.9	
	NG AT	TIROS	DAY	127	127	127	127	127	127	128	128	128	128	128	128	129	129	129	129	129	129	129	129	130	130	130	130	
JUT	CROSSI	ALENDAR	DATE	10/24/63	10/24/63	10/24/63	10/24/63	10/24/63	10/24/63	10/25/63	10/25/63	10/25/63	10/25/63	10/25/63	10/25/63	10/26/63	10/26/63	10/26/63	10/26/63	10/26/63	10/26/63	10/26/63	10/26/63	16/27/63	10/27/63	10/27/63	10/27/63	
REACOUT	ITE ECUATOR	, <u> </u>	SECCNDS (GMT)	C*56*47	2*34*12	4*11*36	5*49* 1	18*48*17	2C+25+41	1*17*54	2*55*19	4*32*43	17*31*59	19* 9*24	20*46*48	C* 1*37	1+39+ 1	3*16*26	4*53*50	16*15*42	17*53* 6	19*30*31	21* 7*55	0+25+44	2# 0# 9	3*37*33	16*36*49	
	SATELLI	EARTH	-TUDE (DEG)	154.47	129.80	105.12	80.45	-116.92	-141.59	144.38	119.71	95.03	-102.34	-127.01	-151.68	158.96	134.29	109.61	84.94	-87.76	-112.44	-137.11	-161.78	148.87	124.19	99.52	-97.85	
		CDA	STA	3	8	2	8	1	2	ю	ю	2	-	2	2	6	8	3	17	7	-	7	7	ю	m	2	,4	
		ORBIT	• O N	1872	1873	1874	1875	1883	1884	1887	1888	1889	1897	1898	1899	1901	1962	1903	1904	1161	1912	1913	1914	1916	1917	1918	1926	

	•	FAR	REEL NO.	÷65	465	465	465	466	466	466	466	466	466	466	194	194	467	1.94	194	194	194	494	468	468	468	468	468	468	
)E	15,	ANO	-01																										
FMR TAP	DROPOUTS	W/R/T	FROM-																										
FILE ON	٥	MINU	W/R/T AND	19.8	21.2	24.1	36.4	6.6	12.1	9.1	12.3	19.5	22.1	34.7	10.4	15.0	10.6	17.8	20.4	24.0	35.5	12.3	8.9	11.5	18.7	22.3	33.9	37.4	
NTERVAL OF	Z W	HOURS	SECONDS (GMT)	23*26*13	1 5 4 3	2*45*	4*35* 3	15*30*27	17*10* 3	18*44*27	20*25* 3	23*47* 3	1+27+ 3	3*17* 3	15*52* 3	17*34* 3	19* 7* 3	22*29# 3	0 * 6 * 3	1*50* 3	3+38+58	16*15* 3	17*49* 3	19*29* 3	22*51* 3	0*32* 3	2*21* 3	4* 2* 3	
TIME II	BEGIN	ONIW	M/R/T ANO	-63.8	-67.2	-65.8	-61.2	-87.6	-78.0	-73.5	-77.8	-20.2	-67.6	-62.7	-75.3	-75.9	-71.6	-61.8	13.5	6.99-	-57.3	-74.0	-74.0	-77.4	-61.9	6.7	-64.3	-52.0	
		SPIN	(DEG /SEC)	59.677	59.670	59,664	59.657	59.612	509.65	59.599	59.592	59.579	59,573	59.567	59.515	59.509	59,503	59.490	59.484	59.477	59.471	59.421	59.415	59.409	59.397	59.390	59.384	59.378	
	TITUDE	101	AFTER AND)	97.0	6.96	6.96	6.96	6.96	6.96	6.96	8.96	6.96	6.96	6.96	97.0	6.96	6.96	6.96	6.96	6.96	0.76	6.96	. 6.96	.0.16	97.0	0.76	0.76	97.0	
ORBIT	ATTI	INIM	NADIR (DEG)	-29.4	-29.1	-28.8	-28.6	-26.8	-26.5	-26.2	-25.9	-25.4	-25.1	-24.8	-22.8	-22.5	-25.	-21.7	-21.4	-21.1	-20.9	-18.8	-18.5	-18.3	-17.7	-17.5	-17.2	-16.9	
	VECTOR	RIGHT	ASCEN -S10N (DEG)	159.2	159.2	159.2	159.2	159.0	159.0	159.0	159.0	159.0	159.0	158.9	158.7	158.7	158.7	158.7	158.7	158.7	158.7	158.5	158.5	158.5	158.5	158.5	158.5	158.4	
	NIdS	DECL I	-TION (DEG)	13.4	13,3	13.2	13.1	12.1	11.9	11.8	11.7	11.5	11.4	11.3	10.2	10.0	6.6	4.6	9.6	9.5	4.6	8.3	8.2	8.1	7.9	7.8	7.7	7.6	
	AT	TIROS	DAY	130	131	131	131	131	131	131	131	131	132	132	132	132	132	132	132	133	133	133	133	133	133	134	134	134	
UT	R CROSSING	ALENDAR	DATE	10/27/63	10/28/63	10/28/63	10/28/63	10/28/63	10/28/63	10/28/63	10/28/63	10/28/63	10/29/63	10/29/63	10/29/63	10/29/63	10/29/63	10/29/63	10/29/63	10/30/63	16/30/63	16/30/63	10/30/63	10/30/63	10/30/63	10/31/63	10/31/63	10/31/63	
REACOUT	TE EQUATOR ASCENDING	HOURS	SECCNDS (GMT)	23* 6*27	0*43*51	2*21*16	3*58*40	15*20*31	16*57*56	18*35*20	20*12*45	23*27*34	1* 4*58	2*42*23	15*41*38	17*19* 3	18*56*27	22*11*16	23*48*41	1+26+ 5	3* 3*30	16# 2#45	17*40*10	19*17*34	22*32*23	C* 9*48	1*47*12	3*24*37	
	SATELLI	EARTH	-TUDE (DEG)	163.44	138.77	114.10	89.42	-83.28	-107.95	-132.62	-157.30	153,35	128.65	103.98	-93.39	-118.06	-142.74	167.91	143.24	118.56	93.89	-103.48	-128.16	-152.83	157.82	133.14	108.47	83.80	
		CDA	STA	8	9	ъ	2	٦	~	2	2	3	8	2	7	-	2	6	m	m	2	-	2	2	м	3	2	2	
		ORBIT	0 0	1930	1931	1932	1933	1940	1941	1942	1943	1945	1946	1947	1955	1956	1957	1959	1960	1961	1962	1970	1971	1972	1974	1975	1976	197,	

	·	ш - 1 •	0	1	-		-	-		-	7	2	72	12	72	2	2	5	73	73	473	73	473	473	414	474	, 525	414
		FMR TAPE REEL NO.	47	4.7	471	471	471	471	471	471	472	472	472	47	472	472	472	473	14	41	4	47	47	14	4	4	4	4
APE	JTS ES	AN0 10-																										
FMR T	DROPOUTS, MINUTES	W/R/T FROM-																										
FILE ON	0	MINU TES W/R/T	37.6	9.3	12.4	0.6	20.7	23.3	34.9	38.5	10.2	14.8	9.8	19.0	21.1	24.2	35.8	11.5	8.6	12.2	19.4	22.5	34.1	37.7	8.8	11.9	26.1	22.7
NTERVAL OF	2	HOURS MINUTES SECONDS (GMT)	3* 7* 3	14* 0*33	15*41* 3	17*15* 3	22*19* 3	23*59* 3	1*48* 3	3*29* 3	14*22*33	16* 4*33	17*37* 3	21* 1* 3	22*40*33	0*21* 3	2*10* 3	14*45* 3	16*19*33	18* 0*33	21*22*33	23* 3* 3	0*52* 3	2*33* 3	15*24*33	17* 5* 3	20*28* 3	22* 8* 3
TIME I	BEGIN	MINU -TES W/R/T ANO	-67.1	-87.4	-76.0	-72.4	-54.1	-64.7	-61.5	-50.2	2.0	7.47-	-71.2	-63.5	-66.1	-12.8	-58.7	-72.8	-73.4	-76.1	-61.1	-65.7	-62.5	-50.8	-77.2	-83.1	-84.8	-72.6
		SPIN RATE (DEG /SEC)	59.213	59.175	59,170	59.164	59.147	59.141	59,135	59.129	59.088	59.082	59.076	59.063	59.057	59.051	59.045	58.995	58,988	58.982	58.969	58.963	58.956	58.950	58.801	58.795	58.782	58.775
	rube	TOT (MIN. AFTER ANO)	97.3	97.3	97.3	97.3	97.4	4.16	4.16	4.16	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.3	4.0	4.0	0.5	4.0	4.0	0.5	1.0	1.1	1.0	1.1
ORBIT	ATTITUDE	MINI NADIR TOEG)	-9.3	-7.5	-7.2	-7.0	-6.1	-5.9	-5.8	-5.6	-3.8	-3.5	-3.2	-2.7	-2.4	-2.2	-1.9	0.2	0.5	0.7	1.3	1.5	1.8	2.0	8.1	8.4	8.9	9.2
	VECTOR	RIGHT ASCEN -SION (DEG)	_	157.9	157.9	157.9	158.0	158.0	158.0	157.9	157.9	157.9	157.9	157.9	157.9	157.9	157.9	157.9	157.9	157.9	158.0	158.0	158.0	158.0	158.3	158.3	158.4	158.5
	SPIN	DECLI -NA -TION (DEG)	4.3	3.5	3.4	3.3	3.1	3.0	2.9	2.8	2.1	2.0	1.9	1.8	1.7	1.7	1.6	0.8	0.7	1.0	9.0	0.5	4.0	4.0	-1.2	-1.3	-1.4	-1.4
	G AT	IROS DAY	136	136	136	136	136	136	137	137	137	137	137	137	137	137	138	138	138	138	138	138	139	139	140	140	140	140
Tí	CROSSIN	CALENDAR	11/ 2/63	11/ 2/63	11/2/63	11/ 2/63	11/ 2/63	11/ 2/63	11/ 3/63	11/ 3/63	11/ 3/63	11/ 3/63	11/ 3/63	11/ 3/63	11/ 3/63	11/ 3/63	11/ 4/63	11/ 4/63	11/ 4/63	11/ 4/63	11/ 4/63	11/ 4/63	11/ 5/63	11/ 5/63	11/ 6/63	11/ 6/63	11/ 6/63	11/ 6/63
REACOUT	TE EQUATO ASCENDIN	HOURS FINUTES SECCNDS	2*29*26	13*51*17	15*28*41	17* 6* 6	21*58*19	23*35*44	1*13* 8	2*50*33	14*12*24	15*49*48	17*27*13	20*42* 1	22+19+26	23*56*50	1*34*15	14*33*31	16*10*55	17*48*20	21* 3* 8	22#40#33	0*17*57	1+55+22	15*15*44	16*53* 9	20* 7*57	21+45+22
	SATELLI	LCNGI -TUDE (DEG)	88.29	-84.41	-109.09	-133.76	152.21	127.54	102.87	78.20	-94.51	-119.18	-143.85	166.79	142.12	117.45	92.77	-104.60	-129.27	-153.94	156.70	132.63	107.35	82.68	-124.78	-149 45	161.19	136.52
		CDA	2	-	-	2	ĸ	8	2	2	-		7	m	ĸ	3	7	-	2	2	٣	æ	2	2	2	2	6	m
		ORBIT NO.	2006	2013	2014	2015	2018	2019	2020	2021	2028	2029	2630	2032	2533	2034	2035	2043	2044	2045	2947	25.48	2049	2050	2073	2074	2076	2377

REACOUT	REACOUT ITE ECUATOR CROSSING AT	REACOUT TE EQUATOR CROSSING AT	CROSSING AT	AT	%	NIdS	VECTOR	ORBIT	T T1TUDE		TIME IN	INTERVAL OF	FILE ON		
AL ASCENDING NODE (ANO) HOURS CALENDAR TIROS	AL ASCENDING NODE (AND) HOURS CALENDAR TIROS	ASCENDING NODE (AND) HCURS CALENDAR TIROS	NOCE (ANO)	IROS	DECL 1		THOL	INI	101	SPIN		i	ONIM	\bar{z} !	FMR TADF
STALCNGI #INUTES DATE DAYTION _	MINUTES SECONDS DATE DAY (GMT)	DATE DAY	DATE DAY	ΑΥ	-NA -T10N (DEG)		-SION	NADIR (DEG)	AFTER AND)	(DEG /SEC)	M/R/T ANO	SECONDS (GMT)	W/R/T AND	FROM- TO-	REEL NO.
2 111.85 23*22*46 11/ 6/63 140 -1.4	.85 23*22*46 11/ 6/63 140 -1.	3*22*46 11/ 6/63 140 -1.	6/63 140 -1.	-1.			158.5	4.6	1.1	58.769	-69.5	23*57* 3	34.3		474
2 87.17 1* 0*11 11/ 7/63 141 -1.5	.17 1* 0*11 11/ 7/63 141 -1.	* 0*11 11/ 7/63 141 -1.	7/63 141 -1.	1 -1.	:		158.5	4.6	1.2	58.763	-58.0	1*38* 3	37.9		474
1 -85.53 12*22* 2 11/ 7/63 141 -1.9	85.53 12*22* 2 11/ 7/63 141 -1.	2*22* 2 11/ 7/63 141 -1.	7/63 141 -1.	1 -1.	•		158.6	11.5	1.4	58.719	-95.2	12*32* 3	10.0		475
2 -159,54 17*14*15 11/ 7/63 141 -2.0	159.54 17*14*15 11/ 7/63 141 -2.	7*14*15 11/ 7/63 141 -2.	7/63 141 -2.	-2.	•		158.7	12.3	1.4	58.700	-92.6	17*27* 3	12.8		475
3 175,77 18*51*40 11/ 7/63 141 -2.1	.77 18*51*40 11/ 7/63 141 -2.	51*40 11/ 7/63 141 -2.	7/63 141 -2.	1 -2.	•		158.8	12.6	1.4	58.694	-78.4	19*10* 3	18.4		475
3 151.10 20*29* 4 11/ 7/63 141 -2.1	51.10 20*29* 4 11/ 7/63 141 -2.	*29* 4 11/ 7/63 141 -2.	7/63 141 -2.	-2.	•		158.8	12.9	1.5	58.688	-73.1	20*49* 3	20.0		475
3 126,43 22* 6*29 11/ 7/63 141 -2.2	26.43 22* 6*29 11/ 7/63 141 -2.	2* 6*29 11/ 7/63 141 -2.	/ 7/63 141 -2.	-2.	•		158.8	13.1	1.5	58.682	-72.4	22*29* 3	22.6		475
2 101.76 23*43*53 11/ 7/63 141 -2.2	.76 23*43*53 11/ 7/63 141 -2.	3*43*53 11/ 7/63 141 -2.	7763 141 -2.	-2.	•		158.9	13.4	1.6	58.675	-68.9	0*19*58	36.1		475
2 77,68 1*21*17 11/ 8/63 142 -2.3	.08 1*21*17 11/ 8/63 142 -2.	*21*17 11/ 8/63 142 -2.	8/63 142 -2.	2 -2.	•		158.9	13.7	1.6	58.669	-56.5	2* 0*33	39.3		475
2 -144.96 15*57*57 11/ 8/63 142 -2.7	144.96 15*57*57 11/ 8/63 142 -2.	5*57*57 11/ 8/63 142 -2.	/ 8/63 142 -2.	42 -2.	2		159.1	16.0	1.9	58.616	-91.7	16*11* 3	13.1		476
3 165.68 19*12*46 11/ 8/63 142 -2.7	.68 19*12*46 11/8/63 142 -2.	9*12*46 11/8/63 142 -2•	8/63 142 -2.	42 -2.	2		159.2	16.5	1.9	58.605	-85.6	19*32* 3	19.3		476
3 141.01 20*50*11 11/ 8/63 142 -2.7	41.01 20*50*11 11/8/63 142 -2.	C*50*11 11/ 8/63 142 -2.	/ 8/63 142 -2.	42 -2.	•		159.3	16.8	2.0	58.599	-72.9	21*12* 3	21.9		416
3 116.34 22*27*35 11/ 8/63 142 -2.8	34 22*27*35 11/ 8/63 142 -2.	2*27*35 11/ 8/63 142 -2.	/ 8/63 142 -2.	42 -2.	2.		159.3	17.1	2.0	58.593	-70.5	22*52* 3	24.5		470
2 91.67 0* 5* 0 11/ 9/63 143 -2.8	.67 0* 5* 0 11/ 9/63 143 -2.	* 5* 0 11/ 9/63 143 -2.	9/63 143 -2.	43 -2.	2.		159.3	17.3	2.1	58.588	-51.5	0*41* 3	36.1		476
1 -105.71 13* 4*15 11/ 9/63 143 -3.3	105.71 13* 4*15 11/ 9/63 143 -3.	3* 4*15 11/ 9/63 143 -3.	/ 9/63 143 -3.	43 -3.	ů.		159.5	19.5	2.3	58.544	-92.3	13*17* 3	12.8		417
2 -155.05 16*19* 4 11/ 9/63 143 -3.3	155.05 16*19* 4 11/ 9/63 143 -3.	6*19* 4 11/ 9/63 143 -3.	9/63 143 -3.	43 -3.	ě		159.7	20.0	2.4	58.534	-76.2	16*31*.3	12.0		417
3 155.59 19*33*53 11/ 9/63 143 -3.4	55.59 19*33*53 11/ 9/63 143 -3.	9*33*53 11/ 9/63 143 -3.	/ 9/63 143 -3.	43 -3.	ě		159.8	50.6	2.5	58.523	-85.1	19*53*33	19.7		417
3 130,92 21*11*17 11/ 9/63 143 -3.4	30,92 21*11*17 11/ 9/63 143 -3.4	11*17 11/ 9/63 143 -3.4	9/63 143 -3.4	43 -3.4	4		159.8	20.9	2.5	58.518	-72.6	21*33*33	22.3		477
2 -140.47 15* 2*46 11/10/63 144 -3.9 3	140.47 15* 2*46 11/10/63 144 +3.	5* 2*46 11/10/63 144 -3.	3 144 -3.	44 -3.	•		160.2	23.8	2.9	58.428	6-11-9	15*13* 3	10.3		478
3 170.18 18*17*35 11/10/63 144 -4.0 1	70.18 18*17*35 11/10/63 144 -4.0	8*17*35 11/10/63 144 -4.0	3 144 -4.0	0*44*0	0	-	160.4	24.4	3.0	58.417	-87.0	18*35*33	18.0		478
3 120.83 21*32*24 11/10/63 144 -4.0	.83 21*32*24 11/10/63 1444	1*32*24 11/10/63 1444	3 1444	5- 55	4		160.5	24.9	3.1	58.406	-81.2	21*55*33	23.2		478
2 -150,56 15*23*53 11/11/63 145 -4,4	150.56 15*23*53 11/11/63 145 -4.	5*23*53 11/11/63 145 -4•	3 145 -4.	45 -4.	4		160.9	27.8	3.5	58.346	-93.9	15*35* 3	11.2		614
3 160.09 18*38*42 11/11/63 145 -4.5	60.09 18*38*42 11/11/63 145 -4.	8*38*42 11/11/63 145 -4•	3 145 -4.	45 -4.	•		161.1	28.4	3.6	58.335	-86.1	18*57* 3	18.4		614
3 110,74 21*53*31 11/11/63 145 -4.5	.74 21*53*31 11/11/63 145 -4.	53*31 11/11/63 145 -4.	3 145 -4.	45 -4.	•		161.2	28.9	3.7	58.324	-79.8	22*18*33	25.0		614
3 174.65 17*22*24 11/12/63 146 -4.8	74.65 17*22*24 11/12/63 146 -4.	22*24 11/12/63 146 -4*	2/63 146 -4.	.44.	4		161.8	32.1	4.3	58.260	-87.1	17*40* 3	17.7		480
3 149.97 18*59*48 11/12/63 146 -4.8	.97 18*59*48 11/12/63 146 -4.	8*59*48 11/12/63 146 -4.	2/63 146 -4•	46 -4.	•		161.9	32.4	4.4	58.254	-74.1	19*19*58	20.2		480

	<u> </u>	FMR		480	81	81	81	81	482	482	482	.82	.82	83	.83	83	483	84	484	484	484	485	485	85	98	486	486	. 984	487
		EA	Y Z	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4,
N FMR TAPE	DROPOUTS, MINUTES	W/R/T AND	, –																										
FILE ON	Q	MINU -TES	ANO	25.9	10.4	19.0	24.7	27.2	7.7	19.9	23.5	25.1	37.7	8.6	18.2	21.3	22.4	10.3	4.9	15.5	36.5	9.2	12.8	36.2	11.0	19.3	24.5	37.6	8.3
INTERVAL OF	Z.	HOURS	(GMT)	22*40*33	14*39* 3	18* 2*33	21*23* 3	23* 2+58	13*20* 3	18*24*33	20+ 5+33	21*44*33	23*34*33	13*42* 3	17* 6*33	18*47* 3	20*25*33	10*50* 3	12*25* 3	14*10* 8	22*38*33	12*47*33	14*28*33	21*21*33	9*55*33	16*33*33	19*53*33	21*44* 3	8+36+33
TIME I	BEGIN	MINU	ANO	-79.2	-94.3	-85.6	-79.7	-67.0	-97.1	-84.9	-71.6	-53.2	-65.9	-8.9	-86.8	-23.4	-70.4	-94.3	-81.6	0.8	-66.8	-76.0	-82.8	-54.3	0°46-	-85.7	-64.3	-67.5	9.96-
		SPIN	/SEC)	58.243	58.190	58.179	58.168	58.163	58.115	58.099	58.093	58.088	58.083	58.034	58.023	58.018	58.013	57.964	57.959	57.953	57.926	57.877	57.871	57.849	57,805	57.783	57.172	57.766	57.727
	TTITUDE	TOT (MIN.	AP LEK	4.6	7.1	7.4	7.7	8.0	10.2	10.6	10.8	11.0	11.2	13.4	13.7	13.9	14.0	16.6	16.8	17.0	17.9	20.4	20.5	21.1	23.3	24.0	24.2	54.4	26.4
ORBIT	ATTI	MINI	(DEG)	32.4	29.5	28.4	27.6	27.2	24.7	23.7	23.3	23.0	22.6	20.5	19.9	19.5	19.1	16.5	16.4	16.2	14.1	13.0	12.9	12.3	11.9	12.2	12.1	11.9	12.0
	VECTOR	R I GHT A SCEN	(DEG)	161.7	161.3	160.8	160.5	160.6	161.5	161.1	161.0	161.1	161.4	163.6	163.6	163.6	163.7	168.9	169.3	169.5	171.5	178.9	179.3	181.5	190.3	192.5	193.8	194.9	202.9
	SPIN	DECLI -NA	(DEG)	-3.2	4.7	5.9	7.4	8.3	15.1	16.8	17.5	18.3	19.2	25.3	26.5	27.2	28.0	34.8	35.3	35.9	39.6	43.2	43.5	6.44	46.1	46.0	46.3	46.5	45.3
	<u>ي</u> ا	1	UAY	146	147	147	147	147	148	148	148	148	148	149	149	149	149	150	150	150	150	151	151	151	152	152	152	152	153
UT	CROSS I NOCE	ALENDAR	UATE	11/12/63	11/13/63	11/13/63	11/13/63	11/13/63	11/14/63	11/14/63	11/14/63	11/14/63	11/14/63	11/15/63	11/15/63	11/15/63	11/15/63	11/16/63	11/16/63	11/16/63	11/16/63	11/17/63	11/11/63	11/11/63	11/18/63	11/18/63	11/18/63	11/18/63	11/19/63
REACOUT	ITE ECUATOR		SECUNDS (GMT)	22*14*37	14*28*42	17*43*31	2C=58+19	22*35*44	13*12*24	18* 4*37	19*42* 1	21*19*26	22*56*50	13*33*30	16*48*19	18*25*43	20* 3* 8	10+39+48	12*17*12	13*54*37	22* 1*39	12*38*19	14*15*43	20*45*21	98*55*5	16*14*14	19*29* 3	21* 6*27	8+28+18
	SATELLI	EARTH LCNG1	-100E	100.63	-146.09	164.55	115.21	90.54	-131.51	154.46	129.79	105.12	80.45	-141.60	169.05	144.37	119.70	-102.34	-127.01	-151.69	84.94	-137.10	-161.77	99.53	-97.85	163.45	114.11	89.44	-83.29
		CDA	A I C	3	7	6	ю	m	7	٣	3	٣	2	2	ĸ	ю	ю	-	7	2	2	2	2	2	1	٣	8	2	
		ORBIT	•0	2166	2176	2178	2180	2181	2190	2193	2194	2195	2196	2205	2207	2208	2209	2218	2219	2220	2225	2234	2235	2239	2247	2251	2253	2254	2261

		~ !		87	87	87	87	87	87	87	88	88	88	88	68	89	89	89	68	68	68	06	06	06	ე6	06	9.	96	91
` 		FMR	REE	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
APE	UTS, ES	ANO	T0-																										
FMRT	DROPOUTS	W/R/T	FROM-																										
FILE ON	0	DNIM	-TES W/R/T ANO	11.8	8.4	12.4	31.2	36.2	34.4	38.5	& •3	30.9	33.1	38.8	11.5	8.1	11.2	19.4	35.8	24.6	37.7	9.3	13.3	8,5	13.1	18.7	22.9	36.0	10.7
NTERVAL OF	<i>2</i> ш	HOURS	MINUTES SECONDS (GMT)	10*17*33	11*51*33	13*32*57	17* 6*33	18*48*57	20*24*33	22* 6* 3	12*12*33	15*49*57	17*29*33	20*50* 3	9*21*58	13*55*58	12*36*33	15*59*33	17*53*23	19*19*33	21*10* 3	8 + 3 + 33	2*44*6	11*17*33	12*59*33	14*42*33	18* 1*33	19*52* 3	8*25*58
TIME I	BEGIN	MINU	-TES W/R/T ANO	-82.9	-80.7	-83.1	-70.9	-61.0	-56.3	-57.2	-78.6	-61.5	-60.1	4.04-	-93.4	-81.0	-84.8	-85.7	-65.4	-56.2	-65.3	-95.3	-80.5	-27.0	-83.4	-78.8	-54.4	-68.8	-76.1
		SPIN	RATE (DEG /SEC)	57.721	57.715	57.710	57.698	57.692	57.687	57.681	57.629	57.618	57.612	57.630	57.553	57.547	57,541	57.529	57.523	57.517	57.511	57.469	57.464	57.457	57.451	57.445	57.433	57.426	57.377
	TUDE	TOT	(MIN. AFTER ANO)	26.6	26.8	27.0	27.3	27.3	27.5	27.8	30.1	30.5	30.6	30.8	31.6	31.6	31.7	31.8	31.8	31.9	31.9	32.3	32.3	32.4	32.5	32.5	32.5	32.6	33.0
ORBIT	ATTI	MINI	-MUM NADIR (DEG)	12.2	12.5	12.7	13.0	13.0	12.9	12.8	14.4	14.9	15.1	15.2	14.6	14.5	14.3	14.1	13.9	13.8	13.7	12.7	12.6	12.4	12.3	12.1	11.8	11.7	10.5
	VECTOR	RIGHT	ASCEN -SION (DEG)	203.6	204.1	204.5	205.3	205.9	206.7	207.8	214.6	215.0	215.3	216.5	216.9	216.9	217.0	217.1	217.1	217.2	217.2	217.2	217.3	217.3	217.4	217.4	217.5	217.5	217.6
	SPIN	DECL I	-NA -T10N (DEG)	44.9	44.6	44.3	44.0	43.9	43.8	43.5	39.1	38.2	37.9	37.3	37.1	37.1	37.1	37.2	37.2	37.2	37.2	37.5	37.5	37.5	37.5	37.6	37.6	37.6	37.9
	G AT		DAY	153	153	153	153	153	153	153	154	154	154	154	155	155	155	155	155	155	155	156	156	156	156	156	156	156	157
UT	CROSSIN	ALENDAR	DATE	11/19/63	11/19/63	11/19/63	11/19/63	11/19/63	11/19/63	11/19/63	11/20/63	11/20/63	11/20/63	11/20/63	11/21/63	11/21/63	11/21/63	11/21/63	11/21/63	11/21/63	11/21/63	11/22/63	11/22/63	11/22/63	11/22/63	11/22/63	11/22/63	11/22/63	11/23/63
REACOUT	TE EQUATOR	HOURS	MINUTES SECCNDS (GMT)	10* 5*43	11*43* 7	13*20*31	16*35*20	18*12*45	19*50* 9	21*27*34	12* 4*13	15*19* 2	16*56*27	20*11*15	9*10*31	10*47*55	12*25*20	15*40* 9	17*17*33	18*54*57	20*32*22	7*54*13	9*31*37	11* 9* 1	12*46*26	14*23*50	17*38*39	19*16* 4	8*15*19
	SATELLI	EARTH	LCNGI -TUDE (DEG)	-107.96	-132.63	-157.30	153.34	128.67	103.99	79.32	-142.72	167.93	143.25	93.90	-103.46	-128.14	-152.81	157.83	133.16	108.49	83.82	-88.88	-113.55	-138.22	-162.90	172.42	123.07	98.40	-98.97
		CDA	STA	-	2	7	1		2	2	2	1	7	7		7	7	33	-	٣	2	1	-	5	2	М	М	2	-
		0R817	• 0 N	2262	2263	2264	2266	2267	2268	5269	2278	2280	2281	2283	1622	2622	2293	2295	2296	2297	2298	2335	2306	2307	2308	5309	2311	2312	2320

		Σ.	REEL NO.	491	491	491	491	491	491	492	765	492	492	493	493	767	464	767	767	767	767	767	495	495	964	964	. 164	164	497
TAPE	DROPOUTS, MINUTES		- TO- R																										
LE ON FMR	DROF	Т	W/R/T FROM-	4.8	10.4	8.6	21.2	3.8	37.9	7.7	2.3	20.5	9.3	4.0	9.6	1.3	6.9	1.5	7.6	22.3	6.4	6.6	9.1	11.7	11.6	2.8	8.6	6.6	23.0
NTERVAL OF FIL	E N D	\vdash	s c	0* 7*33 1	11*40*33 1	5* 3*33 1	16*43*33 2	8*23*33 2	20#15# 3 3	10*21*33	2* 3*33 1	5*26*33 2	*37*33 3	9*11*33 1	10*44*33	7*52*33 11	9*27*33	1* 7*33 1	4*30*33 1	6*10*33 2	7*50*33 2	9*42*58 3	6*34* 3	8*14*3 1	6*23*33 1	9*39*33 1	8*19* 3	3*22*33 1	5 * 3 * 3
TIME INT	BEGIN	+	W/R/T S ANO	-30.1	-59.6 1	-63.2 1	-66.4 1	5.2 1	-61.9 2	-72.9 1	-78.4 1	-61.4 1	-64.8 20	-74.6	-71.0 1	-64.5	-74.0	-76.2 1	-61.5 1	-66.8 1	-63.4 1	-60.2 1	-1.4	-58.0	-78.2	-62.1	-60.3	-57.0 1	-67.3 1
		NIds	(DEG /SEC)	57.371	57.364	57.352	57.345	57.339	57.333	57.275	57.269	57.256	57.236	57.183	57.176	57.088	57.081	57.074	57.060	57.053	57.046	57.039	666.95	56.993	869.98	56.594	56.500	56.479	56.472
	TUDE	TOT	AFTER ANO)	33.0	33.1	33.2	33.2	33.2	33.3	33.7	33.7	33.7	33.9	34.2	34.2	34.7	34.7	34.7	34.7	34.8	34.8	34.9	35.1	35.1	38.8	38.9	39.7	39.9	39.9
ORBIT	ATTI	INIE	NADIR (DEG)	10.4	10.2	6.6	7.6	9.6	4.6	8.1	8.0	7.7	7.2	0.9	5.8	3.7	3.5	3.4	3∙0	2.8	2.1	2.5	1.4	1.2	-4.2	4.4-	-5.8	-6.1	-6.2
	VEC TOR	RIGHT	-SION	217.6	217.7	217.8	217.8	217.8	217.8	217.9	217.9	218.0	218.0	218.0	218.0	218.0	218.0	218.0	218.1	218.1	218.1	218.1	218.0	218.0	219.2	219.1	219.0	218.9	218.9
	SPIN	DECL I	-NA -TION (DEG)	38.0	38.1	38.1	38.1	38.1	38.1	38.4	38.4	38.5	38.6	38.9	38.9	39.4	39.5	39.5	39.6	39.6	39.7	39.7	40.1	40.0	33.0	32.8	31.1	30.8	30.7
	4G AT	TIROS	DAY	157	157	157	157	157	157	158	158	158	158	159	159	160	160	160	160	160	160	160	161	161	165	165	166	166	166
	CROSS IN	ALENDAR	DATE	11/23/63	11/23/63	11/23/63	11/23/63	11/23/63	11/23/63	11/24/63	11/24/63	11/24/63	11/24/63	11/25/63	11/25/63	11/26/63	11/26/63	11/26/63	11/26/63	11/26/63	11/26/63	11/26/63	11/27/63	11/27/63	12/ 1/63	12/ 1/63	12/ 2/63	12/ 2/63	12/ 2/63
REACOUT	ITE ECUATOR	HCURS	SECCNDS (GMT)	9*52*43	11+30+ 8	14*44*57	16*22*21	17*59*45	19*37*10	10*13*50	11*51*14	15* 6* 3	19*58*16	8*57*31	10*34*56	7*41*13	5*18*37	10*56# 2	14*10*51	15*48*15	17*25*40	19* 3* 4	6*24*55	8* 2*19	6*11*55	64*92*6	8*10*25	13* 2*38	14*40* 3
	SATELL	EARTH	-TUDE (DEC)	-123.65	-148.32	162.33	137.66	112.98	88.31	-133.73	-158.41	152.24	78.22	-119.15	-143.82	-104.58	-129.26	-153.93	156.72	132.04	107.37	82.70	00.06-	-114.67	-105.68	-155.03	-140.44	145.53	120.85
		CDA	STA	-	2	т	m	М	2	7	2	٣	2	1	2	1	2	2	6	٣	3	2		-	-	2	2	3	3
		08811	0	2321	2322	2324	2325	2326	2327	2336	2337	2339	2342	2350	2351	2364	2365	2366	2368	2369	2370	2371	2378	2379	2437	2439	2453	2456	2457

	_•	FMR	REEL NO.	16	86	86	86	86	664	664	66	66	200	200	200	200	501	501	501	501	502	502	502	03	503	503	503	504	504
<u> </u>		£ £	- & - B S	4	4	4	4	4	4	4	4	4	Ň	īŪ	Ñ	Ñ	ñ	ĭ	ιĊ	Ñ	ñ	Ñ	Ñ	Ñ	Ñ	ĬÑ	Ñ	Ñ	Ñ
FMR TAPE	DROPOUTS. MINUTES	W/R/T AND	FROM- TO-																										
FILE ON	0	ONIM	W/R/T ANO	35.1	16.3	10.5	21.3	37.0	7.3	19.6	22.2	33.8	6.3	19.4	21.0	35.7	11.2	21.9	33.5	37.6	8.0	22.8	34.9	10.2	10.4	31.0	36.8	7.7	22.5
INTERVAL OF	E S	HOURS	SECONDS (GMT)	16*52*33	5*26*58	8*42* 3	13*45* 3	17*15*33	7*22*33	12*27* 3	14* 7* 3	15*56* 3	7*45*33	11*10*33	12*49*33	16*19* 3	8* 8*33	13*11*33	15* 0*33	16*42* 3	6*49* 3	13*33*33	15*23* 3	3*57*33	7*12*33	10*48* 3	15*46* 3	5*53*33	12*38* 3
TIME I	BEGIN	MINU	W/R/T ANO	-61.5	-75.2	-64.5	-66.2	-56.2	-65.4	9.99-	-67.3	-62.8	-63.4	6.49-	-67.0	-52.9	-61.9	6.49-	-61.5	-51.2	-41.0	-52.2	-4.7	-83.9	-63.5	-71.1	-52.3	-79.1	-49.3
		SPIN	(DEG /SEC)	56.466	56.411	56.397	56,377	56.363	56.302	56.281	56.274	56.267	56.199	56.185	56.178	56.164	56.088	56.067	56.061	56.054	55.991	55.963	55.956	55,901	55.887	55.873	55.852	55.790	55.762
	TTITUDE	TOT	AFTER AND)	39.9	40.5	40.6	40.7	40.8	41.4	41.5	41.6	41.5	45.2	42.3	42.3	42.5	43.0	43.1	43.2	43.3	43.7	43.9	44.0	44.4	44.5	44.6	44.7	45.2	45.5
ORBIT	ATTI	INIM	NADIR (DEG)	4.9-	-7.3	4.1-	7.7-	-8.0	0.6-	-6.3	4.6-	-9.5	-10.6	-10.8	-10.9	-11.2	-12.3	-12.6	-12.8	-12.9	-14.0	-14.4	-14.5	-15.5	-15.7	-15.9	-16.3	-17.4	-17.3
	VECTOR	RIGHT	-SION (DEG)	218.9	218.9	218.8	218.6	218.6	218.4	218.3	218.2	218.2	218.0	217.8	217.8	217.7	217.4	217.2	217.2	217.2	216.8	216.5	216.5	216.2	216.0	215.9	215.8	215.2	214.6
	NIdS	DECL I	-110N (DEG)	30.6	29.6	29.3	29.1	28.8	27.7	27.4	27.3	27.2	25.9	25.7	25.7	25.4	24.2	24.0	23.9	23.8	22.7	22.4	22.3	21.4	21.2	21.0	20.8	19.7	18.7
	G AT	TIROS	DAY	166	167	167	167	167	168	168	168	168	169	169	169	169	170	170	176	170	171	171	171	172	172	172	172	173	173
	CROSSIN	ALENDAR	DATE	12/ 2/63	12/ 3/63	12/ 3/63	12/ 3/63	12/ 3/63	12/ 4/63	12/ 4/63	12/ 4/63	12/ 4/63	12/ 5/63	12/ 5/63	12/ 5/63	12/ 5/63	12/ 6/63	12/ 6/63	12/ 6/63	12/ 6/63	12/ 7/63	12/ 7/63	12/ 7/63	12/ 8/63	12/ 8/63	12/ 8/63	12/ 8/63	12/ 9/63	12/ 9/63
REACOUT	TE ECUATOR	HOURS	SECCINDS (GMT)	16*17*27	5*16*42	8*31*31	13*23*44	16*38*33	7*15*13	12* 7*26	13*44*50	15*22*14	7*36*18	10*51* 7	12*28*32	15*43*20	7*57*24	12*49*38	14*27* 2	16* 4*26	6*41* 6	13*10*43	14*48* 8	3*47*23	7* 2*12	10*17* 1	15* 9*14	5*45*53	12*15*31
	SATELLI	EARTH	-TUDE -TUDE (DEG)	96.18	-101.20	-150.54	135.43	86.09	-135.96	150.02	125.35	100.67	-146.04	164.60	139,93	90.58	-156.13	129.85	105.17	80.50	-141.54	119.76	95.08	-102.28	-151.63	159.01	85.00	-137.04	124.25
		CDA	STA	2		7	ю	м	2	6	3	2	2	3	ъ	2	7	~	2	2	2	3	2	-	2	-	7	7	3
		0R81T	• ON	2458	2466	2468	2471	2473	2482	2485	2486	2487	2497	5439	2500	2532	2512	2515	9157	2517	2526	2530	2531	2539	2541	2543	2546	2555	2559

			REACOUT	JUT				ORBIT			TIME INT	NTERVAL OF	FILE ON	FMR TAPE	
		SATELLI	TTE ECUATOR ASCENDING	CROSSIN	IG AT	SPIN	VECTOR	ATTITUDE	rube			ш Z	0	DROPOUTS, MINUTES	
0881T	CDA	EARTH LCNGI -TUDE (DEG)		AL ENDAR DATE	TIROS	DECL I -NA -T10N (DEG)	RIGHT ASCEN -SION (DEG)	MINI -MUM NADIR (DEG)	TOT (MIN. AFTER AND)	SPIN RATE (DEG /SEC)	MINU -TES W/R/T AND	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T	W/R/T AND FROM- TO-	FMR TAPE REEL NO.
2563	2	99.58	13*52*55	12/ 9/63	173	18.4	214.6	-17.3	45.6	55.755	-62.4	14*27*33	34.6	II.	504
2568	-	·8·16-	2*52*11	12/10/63	174	15.8	214.0	-17.4	4.6.4	55.700	0.68-	3* 2*53	10.7		505
2570	2	-147.15	64 9 * 9	12/16/63	174	15.3	213.7	-17.3	46.5	55.687	-63.5	6*15*33	8.6		505
2573	1	138.83	10*59*12	12/10/63	174	14.7	213.2	-17.2	46.8	55.666	-58.0	11*33* 3	33.9		505
2574	m	114.15	12*36*37	12/10/63	174	14.4	213.2	-17.2	46.8	55.659	-50.5	13* 0* 3	23.4		505
2575	2	89.48	14*14* 1	12/10/63	174	14.1	213.1	-17.2	6.94	55.652	-57.7	14*49*33	35.5		505
2582	-	-83.22	1*35*52	12/11/63	175	11.8	212.7	-17.3	47.6	55.604	-89.5	1*44* 3	8.2		506
2583	-	-107.89	3*13*16	12/11/63	175	11.5	212.6	-17.3	47.7	55.597	4.61-	3*24* 3	10.8		909
2587	1	153.41	6*42*54	12/11/63	175	10.6	211.9	-17.1	48.1	55.570	-62.5	10*14*33	31.7		905
2588		128.74	11*20*18	12/11/63	175	10.4	211.8	-17.0	48.1	55.563	-54.6	11*55*33	35.3		909
2589	2	104.67	12*57*43	12/11/63	175	10.1	211.8	-17.0	48.2	55.556	1.64-	13*31*58	34.3		506
2530	2	79.39	14*35* 7	12/11/63	175	8.6	211.7	-17.1	48.3	55.549	-50.5	15*12*58	37.9		909
2597	-	-93.30	1*56*58	12/12/63	176	7.5	211.3	-17.2	0.64	55.501	-85.3	2* 5*33	8.6		204
2599	2	-142.65	5*11*47	12/12/63	176	7.9	211.0	-17.1	49.2	55.488	-65.4	5*19*33	7.8		507
2602	1	143.33	10* 4* 0	12/12/63	176	6•3	210.5	-16.9	4.64	55.467	-71.8	10*37* 3	33.1		507
2603	3	118.66	11*41*24	12/12/63	176	6.1	210.4	-16.9	46.5	55.461	13.9	12* 4*33	23.2		507
2634	2	93.98	13+18+48	12/12/63	176	5.7	210.4	-16.9	9.64	55.454	-51.1	13*54* 3	35.3		507
2612	-	-103.39	2*18* 4	12/13/63	177	3.2	508.9	-16.9	90.4	55.399	-77.1	2*27*33	9.5		508
2614	2	-152.73	5*32*52	12/13/63	177	2.7	209.6	-16.8	9.05	55,386	9.49-	5*42*33	7.6		508
2616	٣	157.91	8*47*41	12/13/63	117	2.3	209.3	-16.7	50.8	55.372	-65.4	9* 6*33	18.9		908
2617	-	133.24	10*25* 6	12/13/63	177	2.0	208.2	-16.7	50.8	55.365	-68.1	10*59*33	34.5		508
2618	5	108.57	12* 2*30	12/13/63	177	1.7	209.1	-16.7	50.9	55.359	-50.8	12*35*33	33.1		508
2619	2	83.89	13*39*54	12/13/63	177	1.4	209.1	-16.7	51.0	55,352	-51.7	14*16*33	36.7		508
2626	_	-88.80	1* 1*45	12/14/63	178	0.8	208.7	-16.8	51.7	55.305	-86.9	1*10* 3	8.3		699
2628	2	-138.14	4*16*34	12/14/63	178	-1.3	208.5	-16.7	51.9	55.291	-48.8	4*24* 3	7.5		509
2632	6	123.16	10*46*11	12/14/63	178	-2.2	207.9	-16.5	52.2	55.264	-55.7	11* 8*33	22.4		506

	•	111			0	0	o	_	-	1	1	1	1	2	2	2	2	m	ю	6	m	J	÷	.	J.	J	10	2	ıς
		FMR	REE	510	510	510	510	511	511	511	511	511	511	512	515	51	51	513	51	51	51	514	514	514	514	514	515	513	51
ON FMR TAPE	DROPOUTS, MINUTES	W/R/T AN	FROM- TO-																										
FILE C	٥	MINU -TES	W/R/T And	4.6	19.1	34.1	23.3	11.1	11.3	19.0	35.6	33.7	37.3	8.1	20.9	23.5	36.1	11.0	22.3	24.4	37.5	8.1	8.3	20.1	22.7	35.3	9.3	4.6	30.1
INTERVAL OF	w w	HOURS MINUTES	SECONDS (GMT)	6 * 4 5 * 5	8*11*33	10* 3*58	11+30+33	1*55* 3	5*10* 3	8+32+33	10*26*33	12* 2* 3	13*43* 3	3*50*33	8*55*33	10*35*33	12*25*33	4*14*33	9*18* 3	10*57*33	12*48* 3	23*40*33	2*55*33	7*59*33	9*39*33	11*29*33	23* 7*33	2*22*33	5 * 58 * 3
TIME I	BEGIN	MINU -TES	W/R/T ANG	-60.4	-63.4	-65.6	-59.4	-81.4	-62.2	-61.9	0.99-	6.64-	-51.4	9.69-	-54.5	-64.1	-53.1	6.69-	-53.9	-63.2	-59.9	-85.4	-65.7	-70.9	-65.0	-38.8	-54.5	-63.3	-63.6
		SPIN	(DEG /SEC)	55.190	55.177	55.170	55.164	55.103	25.090	55.677	55.070	55.064	55.057	54,997	54.978	54.971	54.964	54.899	54.879	54.873	54.866	54.821	54.898	54.788	54.782	54.775	54.539	54.526	54.514
	rude	TOT (MIN.	AFTER AND)	53,3	53.4	53.5	53.6	54.5	54.7	54.8	54.9	55.0	55.1	56.1	56.6	56.8	57.0	59.5	0.09	60.2	60.5	62.5	63.0	63.4	63.6	63.8	73.1	73.5	73.9
ORBIT	ATTITUD	MINI	NADIR (DEG)	-16.4	-16.3	-16.3	-16.2	-16.2	-16.1	-16.9	-16.0	-16.0	-15.9	-15.4	-14.2	-13.8	-13.4	-10.9	6.6-	-9.5	-9.1	-7.8	-7.5	-6.8	-6.5	-6.1	-1.2	-1.4	-1.5
	VECTOR	RIGHT	-SION (DEG)	207.2	206.9	206.8	206.7	206.4	206.1	205.9	205.8	205.7	205.7	205.1	204.4	204.4	204.5	206.5	206.3	206.5	206.8	210.5	211.0	211.3	211.5	212.0	250.3	252.4	254.1
	NIdS	DECLI -NA	-T10N (DEG)	-5.5	-5.9	-6.2	-6.5	-9.2	1.6-	-10.1	-10.4	-10.7	-11.0	-14.5	-16.6	-17.4	-18.4	-26.8	-28.8	-29.7	-30.6	-36.4	-37.6	-39.3	-40.1	-40.9	-56.9	-56.7	-56.6
	G AT	TIROS	DAY	179	179	179	179	180	180	180	180	180	180	181	181	181	181	182	182	182	182	182	183	183	183	183	195	186	186
UT	CROSSIN	CAL ENDAR	DATE	12/15/63	12/15/63	12/15/63	12/15/63	12/16/63	12/16/63	12/16/63	12/16/63	12/16/63	12/16/63	12/11/63	12/11/63	12/17/63	12/11/63	12/18/63	12/18/63	12/18/63	12/18/63	12/18/63	12/19/63	12/19/63	12/19/63	12/19/63	12/21/63	12/22/63	12/22/63
REACOUT	TE ECUATOR ASCENDING	HOURS	SECCNDS (GMT)	4+37+40	7*52*28	9*29*53	11* 7*17	1*43*57	4*58*45	8*13*34	64*05*6	11*28*23	13* 5*48	3*42*27	8+34*40	10*12* 5	11*49*29	4* 3*33	8+52+46	10*33*10	12*10*35	23*32*25	2*47*14	7*39*27	9*16*52	10*54*16	22*58*18	2*13* 7	5*27*56
	SATELLI	EARTH LCNGI	-TUDE (DEG)	-148.23	162.42	137.74	113.07	-108.97	-158.31	152.33	127.66	102.99	78.32	-143.77	142.20	117.53	95.86	-153.86	132.11	107.44	82.77	-89.93	-139.27	146.70	122.03	97.35	-95.52	-144.86	165.78
		CDA	STA	2	۳	-	М	-	2	8	-	2	2	2	6	٣	2	2	٣	т	2	-	2	ю	ю	2		2	1
		0R81T	• 0 2	2643	2645	2646	2647	2656	2658	2660	2661	2662	2663	2672	2675	2676	2677	2687	2690	2691	2692	5698	2701	2794	2705	2706	2743	2745	2747

Part				REACOUT	UT				ORBIT			TIME IN	NTERVAL OF	FILE ON	FMR T	APE	
Cross Cross Faring Categories Trigon Categories Trigon Categories Trigon Categories Trigon Categories Trigon Categories Categories			SATELL		CROSSIN	1 3	SPIN		ATTI	TUDE		BEGIN			DROPOU	JTS,	
11 141.11 7 57.50 12/22/63 186 -76.6 255.0 -11.4 74.0 54.50 -11.6 74.0 73.0 -11.6 74.0 73.0 -11.6 74.0 73.0 -11.6 74.0 73.0 -11.6 74.0 73.0 -11.6 74.0 74.0 74.0 -11.6 74.0 74.0 -11.6 -11.6	RBIT	CDA	EARTH LENCI	HOURS	ALENDAR	TIROS	DECL I		NINI MUM I	TOT (MIN.	SPIN	MINU -TES	HOURS	MINU TES	W/R/T	ANO	FMR TAPE
1 144.11 1 1 5 2 12/22/63 186 -56.6 259.0 -15.7 74.0 54.607 -11.6 71.89.3 31.2 2 116.44 84.45.44 12/22/63 186 -56.7 256.2 -14. 74.2 54.610 -53.7 91.613.) 31.8 3 -105.61 2319.72 12/22/63 186 -53.8 256.2 -15. 74.2 54.405 -53.7 91.613.) 31.8 4 -105.61 2319.72 12/22/63 186 -53.8 256.2 -15. 76.7 54.405 -51.9 27.3 27.9 5 -115.05 2314.12 12/22/63 187 -52.3 27.2 -73.3 -73.5 -10.9 -20.7 27.2 -23.3 -23.5 -23.9 -23.9 5 -105.61 27.2 27.3 27.2 -27.3 27.2 -27.3 -77.2 -27.3	•	STA	-TUDE (DEG)	SECCNDS (GMT)	DATE	∀	(DEC)		(DEG)	AND)	/SEC)	ANO	(GMT)	ANO	E D	5	NO.
2 110.4.4 ex-2x+4 1222/2x/3 186 -56.7 25.2 -1.4 74.2 54.501 -53.7 +10.5 -52.4 10.55.8 -1.2 74.4 54.45 -52.4 10.55.33 35.4 1 -105.61 2.126.0-3 1222/2x/3 186 -56.7 27.7 54.445 -52.4 10.55.33 35.4 1 -155.03 2.24.1 1222/2x/3 187 -52.9 27.1 77.5 54.467 -61.6 27.47 31.1 1 155.03 2.22.2 2.2.3 2.0.2 27.1 24.445 -52.4 10.55.33 31.1 2 165.05 2.45.0 1.2.2 2.2.3 27.2 2.2.3 77.5 54.447 -61.8 10.9 2 106.35 2.5.2 2.7.1 2.2.3 27.2 2.2.1 27.2 2.2.3 27.2 2.2.1 27.2 2.2.3 27.2 2.2.1 27.2 2.2.4 2.2.3 27.2 2.2.4 2.2	748	-	141.11		2/22/6	8	56.	55.	•	4	4.5	11.	*38*3	m			515
1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	671	2	116.44	8*42*44	9	œ	56.	56.	-:	4	4.50	53.	*16*3	8			515
105.61 23.94924 12/22/63 186 -52.9 211.1 -20.4 -20.4 -20.5 11.1 -20.4 -20.4 12/22/63 187 -52.9 211.1 -20.7 77.1 54.42 -10.6 25.9 10.9 -10.6 25.9 10.9 -10.6 20.4 10.9 -10.9 10.9	150	2	91.16	10*20*.9	9	186	56.	57.	•	•	4.49	52.	55*3	5.			515
2 1155,470 5×449.1 112/23/63 187 -52.9 71.1 5×4.20 -61.6 2×65.93 31.5 1 155.70 5×49.1 112/23/63 187 -52.3 77.5 5×4.20 -61.9 6×20.93 31.5 2 106.35 5×3.90 12/23/63 187 -51.8 27.2 -2.3 77.5 5×4.60 -61.9 6×20.93 31.5 2 106.35 5×3.40 12/23/63 187 -61.8 27.2 -6.3 77.5 5×4.60 -61.9 9.3*3 31.5 1 1145.60 117.54 12/24/63 188 -45.6 283.4 -3.7 5×26.6 -81.1 1.5 6.7 33.9 5×26.6 -81.1 1.5 6.7 33.4 33.7 5×26.6 -81.1 1.5 6.7 34.2 5.4.2 -6.3 81.1 5×26.9 1.0 1.6 5.3.7 5×4.5 5×26.9 1.0 1.6 1.0 1.0 1.0 <t< td=""><td>2</td><td></td><td>105</td><td>23*19*24</td><td>2/22/6</td><td>80</td><td>53.</td><td>69.</td><td>1.</td><td>•</td><td>4.44</td><td>59.</td><td>3+36+2</td><td>11.1</td><td></td><td></td><td>516</td></t<>	2		105	23*19*24	2/22/6	80	53.	69.	1.	•	4.44	59.	3+36+2	11.1			516
1 155.70 544.91 112/23/63 187 -52.3 77.5 54.420 -61.9 6+20.93 31.5 2 106.35 9.3.350 12/23/63 187 -51.8 27.2 -2.3 77.9 54.407 -41.8 9+374.33 33.7 1 -91.02 22.3 12/23/63 187 -46.5 22.4 -3.1 80.1 54.407 -41.8 9+374.33 33.7 2 -140.38 117.54 12/24/63 188 -45.6 28.2 -3.7 80.6 54.407 -41.8 89.7 34.407 -41.8 89.7 44.5 18.8 -43.6 28.9 -45.8 89.1 54.407 -41.8 89.7 37.2 89.1 37.2 89.1 37.2 89.2 37.2 89.2 44.9 18.6 44.9 45.2 89.1 44.5 89.2 44.5 89.2 44.5 89.2 89.2 89.2 89.2 89.2 89.2 89.2 89.2	09,	2	6	2*34*12	2/23/6	œ	52.	71.	-2.0	•	4.43	61.	*45*	•			516
2 106.33 9 + 3 + 50 12/23/63 187 -51.6 2.2. 4.1.8 9 + 3 + 50 12/23/63 187 -51.6 2.2. 4.1.8 9 + 3 + 5 22 + 11 + 30 8.5 1 -11,0.2 2.2. 3 + 5 12/23/63 187 -46.5 28.2.4 -3.1 9.1.9 54.38 -35.5 22 + 11 + 39 8.5 1 -140,0.38 11,17.54 12/24/63 188 -45.1 18.0 54.36 -45.9 64.9.7 17.26 8.7 1 145,6.0 6.10.1 2.2.244.1 12/24/63 188 -45.2 28.3 -45.2 8.7 54.26 -81.1 54.93 8.7 2 -120.1 12/24/63 189 -35.2 28.9 -45.2 8.7 54.26 -81.1 16.4 9.5 9.7 9.7 17.2 9.9 9.2 9.7 9.7 9.7 9.7 9.7 9.7 9.7 9.7 9.7 9.7 9.7 9.7 9.7 <td>.62</td> <td></td> <td>55.</td> <td>*65*</td> <td>2/23/6</td> <td>ဆ</td> <td>52.</td> <td>72.</td> <td>2.</td> <td>•</td> <td>4.42</td> <td>;</td> <td>*20*3</td> <td>•</td> <td></td> <td></td> <td>516</td>	.62		55.	*65*	2/23/6	ဆ	52.	72.	2.	•	4.42	;	*20*3	•			516
1 -91, 0.2 22.7 3.3 -9.4, 0.3 2.5.3 2.2.1, 9.3 8.5 2 -10, 0.3 1.17, 54 1.27, 24, 63 188 -45.1 293.2 -3.7 80.6 45.34 -9.7 1.26, 93 -9.7 1.26, 93 -9.7 1.26, 93 -9.7 1.26, 93 -9.7 1.26, 93 -9.7 1.26, 93 -9.7 1.26, 93 -9.7 1.26, 93 -9.7 1.26, 93 -9.7 1.26, 93 -9.7 1.26, 93 -9.7 1.26, 93 -9.7 1.26, 93 -9.7 1.26, 93 -9.7 1.26, 93 -9.7 1.26, 93 -9.7 1.26, 93 -9.7 1.26, 93 -9.7 1.26 1.26 1.26 1.27 1.26 1.26 1.27 1.26 1.27 1.26 1.27 1.26 1.27 1.26 1.27 1.26 1.27 1.26 1.27 1.26 1.27 1.26 1.27 1.27 1.27 1.27 1.27 1.27 1.27 1.27 1.27 1.27	49	7	106.35		12/23/63	œ	51.	74.	2.	•		41.	*37*3	ě			516
2 -140.38 1+17*64 12/24/63 188 -45.1 283.2 -3.7 80.6 54.346 -49.7 1*26*33 8.7 1 145.60 6*10*7 12/24/63 188 -43.6 283.9 -45.5 81.1 54.32 -59.9 6*42*33 32.4 1 -101.11 22×24*11 12/24/63 188 -35.7 289.5 -6.7 81.1 54.26 -81.1 22×34*33 10.4 2 -150.46 1=39*0 12/25/63 189 -34.2 289.5 -7.2 84.1 54.26 -81.3 32.4 1 150.10 5=14*54 12/25/63 189 -34.2 289.5 -7.2 84.1 54.26 -78.9 32.4 32.5 44.1 54.26 -78.9 34.4 34.2 44.1 44.25 56.2 94.1 44.2 44.2 44.2 44.2 44.2 44.2 44.2 44.2 44.2 44.2 44.2 44.2 44.2	7.2	1	-91.02	2* 3*	9	C C)	46.	82.	ň	80.1	4.35	35.	2*11*3	•			517
1 145.60 (*10.7) 12/24/63 188 -43.6 283.9 -4.5 81.1 54.327 -59.9 6*42*33 32.4 1 1.01.11 22/24/63 188 -35.7 289.5 -6.3 83.7 54.26 -81.1 22/34;3 10.4 1.01.11 22/24/63 189 -35.7 289.5 -6.3 83.7 54.26 -81.1 22/34;3 10.4 1.01.11 22/24/63 189 -34.9 24.9 24.2 89.1 54.26 -81.1 22/34;3 10.4 1.01.1 22/24/63 189 -34.9 24.9 24.2 89.1 54.2 6.2 17.2 14.8 1.3 5.1 1.01.2 12/26/63 189 -34.2 289.5 -7.2 84.1 54.25 7.0 17.2 14.8 1.3 54.2 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	74	2	-140.38	1*17*54	9	00	45	83.	•	o.	4.34	9	*26*3	•			517
1 -101.11 222.24.11 127.24/63 188 -35.7 289.5 -6.7 83.9 54.266 -81.1 222.34.33 10.4 2 -125.79 0.1135 127.25/63 189 -34.2 289.5 -6.7 8.2 54.266 -7.2 0.88.3 54.266 -76.2 0.88.3 54.266 -76.2 0.88.3 54.266 -76.2 0.88.3 54.266 -76.2 0.88.3 54.266 -76.2 0.88.3 54.266 -76.2 0.88.3 54.266 -76.2 0.88.3 54.266 -76.2 0.88.3 54.266 -76.2 0.88.3 54.166 -76.2 0.88.3 54.266 -76.2 0.88.3 54.166 -77.2 0.89.3 54.166 -77.2 0.89.3 54.166 -77.2 0.89.3 54.166 -77.2 0.89.3 54.166 -77.2 0.89.3 54.166 -77.2 0.89.3 54.166 -77.2 0.89.3 54.166 -77.2 0.89.3 54.166 -77.2 0.89.3 54.1	7.7	1	145.60		2/24/6	60	43.	83.	•	•	4.32	59.	*42*3	2			517
2 -125.79 0**1*35 12725/63 189 -34.9 289.5 -6.7 83.9 54.26 -74.2 0**8*3 54.26 -74.2 0**8*3 54.26 -74.2 0**8*1 54.26 -74.2 0**8*1 54.26 -72.4 84.1 54.26 -78.9 1**8*3 56.2 1 150.10 5.14.5 12726/63 190 -20.9 291.4 -12.6 84.1 54.16 5.0 544783 32.7 1 125.41 5.15.4 -12.6 87.8 54.16 5.0 544783 32.7 2 120.10 12726/63 190 -20.9 291.4 -13.2 88.1 54.16 -51.7 72.8 32.7 1 125.42 12726/63 190 -11.9 292.3 15.7 4.8 54.16 -51.7 72.8 33.4 32.4 1 -121.2 29.1 -11.2 291.4 -15.2 89.1 54.16 -75.0 75.0 <td< td=""><td>37</td><td>-</td><td>101</td><td>22*24*11</td><td>2/24/6</td><td>∞</td><td>5</td><td>89.</td><td>•</td><td>•</td><td>4.26</td><td>81.</td><td>2*34*3</td><td>•</td><td></td><td></td><td>518</td></td<>	37	-	101	22*24*11	2/24/6	∞	5	89.	•	•	4.26	81.	2*34*3	•			518
2 -150.46 1.399.40 1.349.5 1.399.5 1.399.5 -7.2 84.1 54.254 -7.89 1.469.33 9.46 9.49.5 -7.2 84.1 54.156 -7.9 1.468.33 9.4 9.4 9.2 9.4 1.2 6.4 9.4	9.8	2	-125.79		2/25/6	80	34.	89.	7.9-	•	•	74.	* 8	6.5			518
1 155.45 5-14+54 12726/63 190 -20.9 291.4 -12.6 87.8 54.152 5.0 5+47+33 32.7 1 125.42 6-52×18 12726/63 190 -20.3 291.4 -13.0 88.0 5+146 -51.7 7*28+33 36.3 2 10.0.75 8*29+43 12726/63 190 -19.6 291.5 -13.2 88.1 5+140 -48.6 9*4*33 36.3 1 -26.02 21*28*58 12726/63 190 -11.9 292.3 -15.7 9.4 5+48.9 34.8 34.8 1 -121.29 21*28*62 12726/63 190 -11.0 292.3 -15.0 54.08 -75.0 23*20*33 14.2 2 -145.96 0.443*46 12727/63 191 -10.2 291.8 16.0 54.08 -75.0 23*20*33 14.2 2 -145.96 0.443*46 12727/63 191 -10.2 291.8 54.06	œ	2	-150.46	*38*	9	∞	34.	89.	~	4	4.25	78.	*48*3	9.6			518
1 125.42 6*52*18 12/26/63 190 -20.3 291.4 -13.0 88.0 54.146 -51.7 7*28*33 36.3 2 100.75 8*29*43 12/26/63 190 -19.6 291.5 -13.2 88.1 54.140 -48.6 9*4*33 34.8 1 -96.62 21*28*58 12/26/63 190 -11.0 292.3 -15.7 90.6 54.080 -75.7 21*38*33 9.6 2 -145.96 12/26/63 190 -11.0 292.1 -16.2 90.6 54.080 -75.0 23*20*33 14.2 2 -145.96 12/27/63 191 -10.2 291.8 -16.8 90.6 54.080 -69.5 0.59.3 33.6 9.6 2 -145.96 12/27/63 191 -10.2 291.8 -18.2 91.1 54.061 -75.0 23*20*33 35.6 2 -146.91 -16.2 290.8 -18.2 91.1 54.09 -	90	-	150.19	5*14*54	2/26/6	190	20.	91.	2	۷.	4.15	•	*47*3	2			519
2 100.75 8+29+43 12/26/63 190 -19.6 291.5 -13.2 88.1 54.140 -48.6 9+4*33 34.8 1 -96.62 21*28*58 12/26/63 190 -11.9 292.3 -15.7 90.4 54.092 -75.7 21*38*33 9.6 1 -121.29 23*6*22 12/26/63 190 -11.0 292.1 -16.2 90.4 54.086 -75.0 23*20*33 14.2 2 -145.96 6.43*46 12/27/63 191 -10.2 291.8 -16.8 90.6 54.086 -69.5 9.43 9.4 1 146.01 12/27/63 191 -10.2 291.8 18.2 91.4 54.08 -69.5 9.46 9.46 54.08 9.4 9.4 9.5 9.4 9.5 9.5 9.4 9.5 9.5 9.5 9.5 9.5 9.5 9.5 9.5 9.5 9.5 9.5 9.5 9.5 9.5 9.5	20		125.42	*	2/26/6	6	20.	91.	13.	œ	4.14	51.	*28*3	•			519
1 -96.62 21*28*58 12/26/63 190 -11.9 292.3 -15.7 90.2 54.086 -75.7 21*38*33 9.6 1 -121.29 23*6*22 12/26/63 190 -11.0 292.1 -16.2 90.4 54.086 -75.0 23*20*33 14.2 9.6 2 -145.96 (*43*46) 12/27/63 191 -10.2 291.8 -16.8 90.6 54.080 -69.5 0.853*3 14.2 1 146.01 5*35*59 12/27/63 191 -10.2 291.8 -18.2 91.4 54.084 -59.3 33.6 33.6 53.6 2 90.66 8*50*48 12/27/63 191 -6.8 290.8 -18.9 91.4 54.064 -80.8 22*1*3 35.8 35.8 35.8 54.004 -80.8 22*1*3 35.8 35.8 35.9 35.8 35.8 35.9 35.8 35.8 35.9 35.9 35.9 35.9 35.9 35.9	80	2	100.75	29#4	12/26/63	6	6	91.	ě	æ	4.14	œ	4*3				519
7 1 -121.29 23* 6*22 12/26/63 190 -11.0 292.1 -16.2 90.4 54.086 -75.0 23*20*33 14.2 8 2 -145.96 C*43*46 12/27/63 191 -10.2 291.8 -16.8 90.6 54.080 -69.5 0*53*3 9.3 1 1 146.01 5*35*59 12/27/63 191 -6.8 290.9 -18.9 91.4 54.081 6*9*33 35.8 5 3 2 90.66 8*50*48 12/27/63 191 -6.8 290.9 -18.9 91.4 54.061 -54.9 9*26*33 35.8 5 1 1 -1.06.71 21*50*3 12/27/63 191 1.0 290.2 -22.2 93.8 53.59 7.6 35.8 7.6 5 7.6 7.6 7.6 7.6 7.6 7.6 7.6 7.6 7.6 7.6 7.6 7.6 7.6 7.6 7.6 7.6	16		-96.62	10	12/26/63		•	92.	5.	•	54.092	75	1*38*3	9.6			520
8 2 -145.96 C*43*46 12/27/63 191 -10.2 291.8 -16.8 90.6 54.080 -69.5 0*53*3 9.3 1 1 146.01 5*35*59 12/27/63 191 -8.3 290.9 -18.2 91.1 54.063 -38.9 6*9*33 33.6 5 3 2 90.66 8*50*48 12/27/63 191 -6.8 290.8 -18.9 91.4 54.063 54.09 9*26*33 33.6 5 1 1 1 1 1 20.06 -18.9 91.4 54.064 -80.8 22*1*3 35.8 2 -131.38 23*27*28 12/27/63 191 1.8 290.2 -22.2 93.8 53.593 -16.2 23*35*3 7.6 5 3 2 -156.C 1 4.4 53.978 -72.6 23*35*3 16.7 5 5 5 5 5 5 5 5 5 <	17	-	121.2	3* 6*2	12/26/63	190	•	92.	16.	•	4.08	75.	3*20*3	4.			520
23 2 90.66 8+35+59 12/27/63 191 -8+3 290.9 -18+2 91.1 54.063 -38.9 6+9+33 33.6 23 2 90.66 8+50+48 12/27/63 191 -6+8 290.8 -18+9 91.4 54.051 -54.9 9+26+33 35.8 5 31 1 -1/6.71 191 1.0 290.5 -21.7 93.5 54.004 -80.8 22* 1* 3 11.6 5 32 2 -131.38 23*27*28 12/27/63 191 1.8 290.2 -22.2 93.8 53.998 -72.6 23*35*3 7.6 5 33 2 -156.05 1* 4*52 12/28/63 192 2.6 289.7 -22.8 93.9 53.993 -16.2 1*15*33 16.7 34 1 129.92 2.6 289.7 -22.8 93.9 53.993 -16.2 1*15*33 16.7 35 1 12/28/63 <td< td=""><td>18</td><td>2</td><td></td><td>+43+4</td><td>12/27/63</td><td>6</td><td>10.</td><td>91.</td><td>•</td><td>0</td><td>4.0</td><td>.69</td><td>*53*</td><td>•</td><td></td><td></td><td>520</td></td<>	18	2		+43+4	12/27/63	6	10.	91.	•	0	4.0	.69	* 53 *	•			520
23 2 90.66 8*50*48 12/27/63 191 -6.8 290.8 -18.9 91.4 54.051 -54.9 9*26*33 35.8 31 1 -1/6.71 21.50*6 21.7 93.5 54.004 -80.8 22* 1* 3 11.6 5 32 2 -131.38 23*27*28 12/27/63 191 1.8 290.2 -22.2 93.8 53.598 -72.6 23*35*3 7.6 5 33 2 -156.05 1* 4*52 12/28/63 192 2.6 289.7 -22.8 93.9 53.593 -16.2 1*15*33 10.7 5 36 1 129.92 5*57*5 12/28/63 192 4.3 288.8 -24.2 94.4 53.975 -78.2 6*32*33 35.5 5 38 2 80.58 5*11*54 12/28/63 192 4.2 288.8 -24.2 94.4 53.964 -38.7 9*49*33 37.7 5	~	-	140.01	5*35*59	12/27/63	0	æ	90.	18.	91.1	4.06	38.	* 9*3	3			520
31 1 -106.71 21*50* 3 12/27/63 191 1.0 290.5 -21.7 93.5 54.004 -80.8 22* 1* 3 11.6 53 53 53 53 54 54 54 54 54 54 54 54 54 54 54 54 54	2	2	99*06	8+50+48		σ	• 9	96	18.	1.	4.0	4	*26*3	5.			520
32 2 -131.38 23*27*28 12/27/63 191 1.8 290.2 -22.2 93.8 53.598 -72.6 23*35*3 7.6 5 33 2 -156.C5 1* 4*52 12/28/63 192 2.6 289.7 -22.8 93.9 53.593 -16.2 1*15*33 1G.7 5 36 1 129.92 5*57*5 12/28/63 192 4.3 288.8 -24.2 94.4 53.975 -28.2 6*32*33 35.5 5 38 2 8C.58 9*11*54 12/28/63 192 4.2 288.8 -24.2 94.6 53.964 -38.7 9*49*33 37.7 5	331	-	•	1+50+	12/27/63	6	•	90.	21.	3	4.00	80.	2* 1*	11.6			521
33 2 -156.[5 1* 4*52 12/28/63 192 2.6 289.7 -22.8 93.9 53.993 -16.2 1*15*33 16.7 36 1 129.92 5*57* 5 12/28/63 192 4.3 288.8 -24.2 94.4 53.975 -28.2 6*32*33 35.5 38 2 86.58 9*11*54 12/28/63 192 4.2 288.8 -24.2 94.6 53.964 -38.7 9*49*33 37.7	332	2	•	3+27+2	•	6	•	90.	2.	ů.	3.99	72.	3*35*	7.6			521
36 1 129,92 5*57* 5 12/28/63 192 4.3 288.8 -24.2 94.4 53.975 -78.2 6*32*33 35.5 38 2 8C.58 9*11*54 12/28/63 192 4.2 288.8 -24.2 94.6 53.964 -38.7 9*49*33 37.7	3	2	156.C	* 4*5	9	9	•	89.	22.	9	3.59	•	*15*3	ت			521
38 2 8C.58 9*11*54 12/28/63 192 4.2 288.8 -24.2 94.6 53.964 -38.7 9*49*33 37.7	336		29.9	57*	9	σ	•	88.	24.	4	3.97	æ	*32*3	5			521
	338	2	•	5*11*54	12/28/63	Ç.	•	88.	24	4	3.9	38	*49*3	7.			,521

			REACOUT	ıut				ORBIT			TIME I	INTERVAL OF	FILE ON	N FMR TAPE	•
		SATELLITI	ITE EQUATOR	JR CROSSING		NIdS	VECTOR	ATTITUDE	TUDE		BEGIN	N 3	۵	DROPOUTS. MINUTES	•
ORBIT	CDA	EARTH LCNGI	HOURS	AL ENDA	I.R	DECL I	R IGHT A SC EN	MINI	TOT (MIN.	SPIN	MINU -TES	HOURS MINUTES	MI NU	W/R/T AN	FMR TAPE
	STA	-TUDE (DEG)	SECCNDS (GMT)	DATE	DAY	-TION (DEG)	-SION (DEG)	NADIR (DEG)	AFTER And)	(DEG /SEC)	W/R/T AND		W/R/T AND	FROM- 10-	REEL NO.
845	1	-92.12	20*33*44	12/28/63	192	4.2	288.6	-22.8	94.8	53.923	-84.5	20*43* 3	9.3		522
2846	-	-116.79	22*11# 9	12/28/63	192	4.2	288.5	-22.7	6.46	53.918	-73.8	22*24* 3	12.9		522
47	2	-141.47	23*48*33	12/28/63	192	4.2	288.5	-22.5	8.46	53.912	-70.5	23*57* 3	8.5		522
0	7	144.51	95*05*5	12/29/63	193	4.1	288.4	-21.9	6.46	53.895	1-6-7	5*13*33	32.8		522
2	2	95.16	7*55*35	12/29/63	193	4.1	288.3	-21.5	95.0	53.883	6.04-	8*30*33	35.0		522
61	7	-126.88	22*32*14	12/29/63	193	4.0	288.0	-19.8	95.3	53.832	-74.8	22*39* 3	6.8		523
7	2	-151.55	0* 9*38	12/30/63	194	4.0	288.0	-19.6	95.4	53.827	-77.4	0*19*33	6.6		523
29	2	85.08	8*16*39	12/30/63	194	4.0	288.0	-18.5	95.5	53.799	-39.7	8*54*33	37.9		523
4		-87.62	19*38*30	12/30/63	194	3.9	287.8	-17.1	95.8	53.760	-21.4	19*47*28	0.6		524
9	2	-136.97	22*53*19	12/30/63	194	3.9	287.7	-16.8	95.8	53.749	-73.2	23* 2* 3	8.7		524
877	2	-161.65	0*30*43	12/31/63	195	3.9	287.7	-16.6	6*56	53.746	6.17-	0*44* 3	13.3		524
81	2	66.64	7* 0*21	12/31/63	195	3.9	287.6	-15.8	6.56	53.725	-42.5	7*34*33	34.2		524
2890	-	-122.39	21*37* 0	12/31/63	195	3.9	287.3	-14.1	96.3	53.672	-75.2	21*50*33	13.6		525
891	2	-147.07	23*14*24	12/31/63	195	3.9	287.3	-13.9	96.3	53.666	-72.2	23*24* 3	4.4		525
6	,4	128.82	4*27*43	1/2/4	197	4.0	286.7	-10.5	6.96	53.561	16.0	5* 2*33	34.8		526
910	2	104.15	6 5 7	1/2/4	197	4.0	286.7	-10.4	97.0	53.555	7.64-	6*38*33	33.4		526
116	2	79.48	7*42*31	1/2/4	197	4.0	286.7	-10.2	97.0	53.549	-52.5	8*19*33	37.0		526
920	7	-142.57	22*19*11	1/2/4	197	4.2	286.5	-8.5	97.3	53.497	-74.1	22*28* 3	8.9		527
m	-	143.41	3+11+54	1/ 3/ 4	198	4.2	286.3	-8.0	4.16	53.480	-57.4	3*44*33	33.2		527
2933	-	-103.31	19#25#28	1/ 3/ 4	198	4.5	286.0	4.9-	0.3	53.422	0.77-	19*36*33	11.1		528
S	7	-152.65	22*40*16	1/ 3/ 4	158	4.5	285.9	0.9-	7.0	53.410	-72.7	22*51* 3	10.8		528
37	-	157.99	1+55+ 5	1/ 4/ 4	159	4.6	285.9	-5.7	0.5	53.399	-61.9	2*27* 3	32.0		528
2938	-	133,33	3*32*29	1/ 4/ 4	199	4.6	285.8	-5.5	0.5	53,393	-53.6	4* 7*57	35.5		528
2940	8	83.98	6*47*18	1/ 4/ 4	159	4.6	285.8	-5.2	9.0	53.382	-38.2	7*25* 3	37.8		528
2947	1	-88.72	18* 9* 9	1/ 4/ 4	199	4.8	285.6	-3.9	æ •	53.342	-85.1	18*18* 3	8.9		529
6 0		-113.39	19*46*33	1/ 4/ 4	651	4. 8	285.7	-3.6	6*0	53,336	6.09-	19*59* 3	12.5		529

		FRR TAP	REEL NO.	529	529	529	529	530	530	530	530	530	530	531	531	531	531	531	532	532	532	532	532	532	533	533	533	533	. 533
FMR TAPE	DROPOUTS, MINUTES	W/R/T AND	FROM- TO-																										
FILE ON	۵	MINU	W/R/T ANO	8.6	32.4	37.0	33.6	10.8	13.9	10.0	31.1	34.2	36.5	11.7	8.3	13.4	32.0	33.3	10.1	13.1	9.2	56.6	33.0	35.2	11.0	7.6	11.2	30.8	34.4
INTERVAL OF	Z.	HOURS	SECONDS (GMT)	21+32+33	2*48*33	4+30+33	6* 4*33	18*41* 3	20*21*33	21+55+ 3	1*30*57	3*11*27	6*28*33	19# 3# 3	20*37* 3	22*19*33	1*52*57	5* 9* 3	17*45* 3	19*25*33	20*59* 3	0=34+33	2*15* 3	5*32* 3	18* 7* 3	19*41* 3	21*22* 3	0*56*33	2*37*33
TIME IN	BEGIN	MINU	W/R/T AND	-71.7	-65.9	-52.7	0.44-	-77.8	-60.4	-71.5	-62.7	-54.4	-40.1	-80.7	-73.2	-76.8	-43.0	-40.1	-78.3	-75.7	-72.1	-64.6	5.4	-41.4	-76.4	-74.5	-77.1	-52.1	-55.0
		SPIN	(DEG /SEC)	53,330	53,313	53,308	53.302	53.257	53.251	53.246	53.235	53.229	53.218	53.174	53.169	53.163	53.152	53.141	53.098	53.093	53.088	53.077	53.072	53.061	53.019	53.014	53.009	52.999	52.994
	UDE	Π	AFTER AND)	6.0	1.1	1.1	1.1	1.5	1.5	1.6	1.6	1.6	1.7	2.1	2.1	2.2	2.3	2.3	2.7	2.7	2.8	2.9	5.9	2.9	3,3	3.4	3.4	3.5	3.6
ORBIT	ATTITUDE	I N I W	NADIR (DEG)	-3.5	-2.9	-2.6	-2.5	8.0-	-0-7	-0.5	-0-1	0.1	0.5	2.1	2.3	2.5	5.9	3.4	6.4	5.1	5•3	5.7	5.8	6.2	7.7	7.9	8.1	8.6	8.7
	VECTOR	RIGHT	-SION (DEG)	285.6	285.7	285.7	285.7	285.6	285.6	285.5	285.5	285.5	285.5	285.4	285.4	285.4	285.4	285.5	285.4	285.4	285.4	285.4	285.4	285.4	285.4	285.3	285.3	285.4	285.4
	NIdS	DECLI	-TION (DEG)	4.9	4.9	5.0	5.0	5.1	5.1	5.1	5.1	5.1	5.2	5.3	5.4	5.4	5.4	5.5	5.7	5.8	5.8	5.9	5.9	0.9	6.3	6.3	6.3	4.9	6.5
	AT (NO.)	TIROS	DAY	199	200	200	200	200	200	200	201	201	201	291	201	201	202	202	202	202	202	203	203	203	203	203	203	204	204
JT	CROSSING NODE (A	CALENDAR	DATE	1/4/4	1/5/4	1/5/4	1/5/4	1/5/4	1/5/4	1/5/4	1/6/4	1/6/4	1/6/4	1/6/4	1/6/4	1/6/4	1/ 1/ 4	1/ 7/ 4	1/ 1/ 4	1/ 1/ 4	1/ 1/ 4	1/8/4	1/8/4	1/8/4	1/8/4	1/8/4	1/8/4	1/ 9/ 4	1/ 9/ 4
REACOUT	TE ECUATO		SECCNDS (GMT)	21+23+57	2*16*10	3*53*34	5*30*59	18*30*14	20+ 7+38	21*45* ·2	0*59*51	2*37*16	5*52* 4	18*51*19	20*28*44	22* 6* 8	1*20*57	4*35*45	17*35* 0	19*12*25	20*49*49	0* 4*38	1*42* 2	4*56*51	17*56* 6	19+33+30	21*10*54	0+25+43	2* 3* 8
	SATELLI	EARTH	TUDE (DEG)	-138.66	147.91	123.24	98.57	-98.80	-123.48	-148.14	162.50	137.82	88.48	-108.89	-133.56	-158.23	152.40	103.06	-94.31	-118.98	-143.66	166.99	142.32	92.97	-104.40	-129.07	-153.74	156.91	132.24
		CDA	STA	2	-	-	2	-	-	2	,	-	2		7	2	-	7	-	-	2	-	-	7	-	2	7	1	-
		08811	• ON	2949	2952	2953	2954	2962	2963	5364	2966	2967	5963	2977	2978	2979	2981	2983	2991	2662	2993	5662	5996	2998	3006	3007	3008	3010	3011

	•	FMR	REEL NO.	533	534	534	534	534	535	535	535	535	535	536	536	536	536	537	537	537	537	537	538	538	538	538	538	538	539
FMR TAPE	DROPOUTS, MINUTES	W/R/T AND	FROM- TO-																										
FILE ON	۵	MINU	W/R/T AND	36.6	12.4	8.5	32.7	34.9	10.2	10.4	31.1	34.7	35.8	12.1	11.8	32.0	35.6	4.6	13.5	9.6	32.9	34.6	11.3	7.4	11.0	19.2	22.8	24.4	12.2
INTERVAL OF	Z W	HOURS	SECONDS (GMT)	5*54*33	18*29*33	20 * 3 * 3	1+19+33	4*36*33	17*11* 3	20+26+ 3	0+ 1+33	1*42*33	4*58*33	17*34* 3	20*48*33	0+23+33	2* 4*33	16*15* 3	17*56*33	19*30* 3	0*45*33	4* 2* 3	16*38* 3	18*11*33	19*52*33	23*15*33	0*56*33	2*35*33	17* 0* 3
TIME I	BEGIN	MINU	W/R/T AND	-19.8	-76.0	-72.2	-21.4	6*04-	-76.7	-79.1	-63.1	-55.0	-39.7	-79.8	-61.8	-61.7	-53.6	-88.8	-74.8	-71.7	-59.7	-41.4	-77.4	-73.9	-70.0	-64.1	-58.4	-63.2	-76.6
		SPIN	(DEG /SEC)	52.983	52.941	52,935	52.929	52.923	52.860	52.850	52.839	52.834	52.824	52.782	52.772	52.761	52.756	52.709	52.704	52.699	52.683	52.673	52.631	52.625	52.620	52.610	52.604	52.599	52,552
	TTITUDE	TOT	AFTER AND)	3.7	4.0	4.1	4.2	4.4	4.7	4.8	5.0	5.0	5.1	5.5	5.6	5.8	5.8	4.9	4.9	6.5	6.7	6.8	7.3	7.4	7.5	7.5	7.6	7.7	8.3
ORBIT	ATTI	INIW.	NADIR (DEG)	9.1	10.6	10.8	11.4	11.7	13.2	13.6	14.0	14.2	14.6	16.1	16.4	16.8	16.9	18.5	18.7	19.0	19.5	19.8	21.1	21.3	21.4	21.7	21.9	22.1	23.6
	VECTOR	RIGHT	-SION (DEG)	285.4	285.4	285.4	285.4	285.4	285.5	285.5	285.6	285.6	285.7	285.7	285.8	285.8	285.8	285.9	285.9	286.0	286.1	286.1	286.2	286.2	286.3	286.3	286.3	286.3	286.5
	NIdS	DECL I	-TION (DEG)	6.5	6.8	6.9	7.0	7.1	7.5	7.6	7.7	7.7	7.8	8.2	8.3	4.8	8.5	0.6	0.6	9.1	9.3	4.6	6.6	10.0	10.1	10.2	10.3	10.3	11.3
	G AT	TIROS	DAY	204	504	204	205	205	205	205	205	506	206	506	506	506	207	207	207	207	208	208	802	802	208	208	508	209	503
UT	CROSSIN NODE (ALENDAR	DATE	76 /1	1/ 9/ 4	1/ 9/ 4	1/10/ 4	1/10/ 4	1/10/ 4	1/16/ 4	1/10/ 4	1/11/ 4	1/11/ 4	1/11/ 4	1/11/ 4	1/11/ 4	1/12/ 4	1/12/ 4	1/12/ 4	1/12/ 4	1/13/ 4	1/13/ 4	1/13/ 4	1/13/ 4	1/13/ 4	1/13/ 4	1/14/ 4	1/14/ 4	1/14/ 4
REACOUT	TE ECUATOR ASCENDING	HOURS	SECCNDS (GMT)	5*17*56	18*17*11	19*54*36	64*94*0	4* 1*37	17* 0*52	26*15*41	23*30*30	1* 7*54	4*22*43	17*21*58	20+36+46	23*51*35	1*28*59	16* 5*39	17*43* 3	15*20*27	C+12+40	3*27*29	16*26*44	18* 4* 8	19*41*33	22*56*21	C*33*46	2*11*10	16*47*49
	SATELLI	EARTH LCNG1	-TUDE (DEG)	82.89	-114.48	-139.15	146.82	97.48	-99.89	-149.23	161.41	136.74	87.40	-109.97	-159.32	151.33	126.66	-95.38	-120.06	-144.72	141.25	91.90	-105.46	-130.13	-154.81	155.84	131.13	106.45	-115.59
		CDA	STA	2	-	7		2	-	2	7		2	1	2	-	-		-	2	-	2	1	2	7	ю	ю	6	-
		0R81T	• 0N	3013	3021	3022	3025	3027	3035	3037	3039	3040	3042	3050	3052	3054	3055	3064	3065	30,66	3069	3671	30.79	3080	3081	3083	3084	3085	3094

CALCALLIAN CAL			REACOUT	11				ORBIT			TIME IN	NTERVAL OF	FILE ON	V FMR TAPE		
		SATELL	-	CROSSI	S AT	SPIN	ر ا	ATTI	ruoe			z	۵	DROPOUTS, MINUTES		
146,27 147,57 1714 209 11.7 286.4 23.4 8.5 52.547 -34.5 18134 3 518 146.7 1714 209 11.0 286.0 22.9 8.8 52.531 -70.1 23138-33 21.1 121.4 221.7 1714 220 13.0 286.0 22.7 8.9 52.531 -70.1 23138-33 21.1 121.4 221.7 1714 221.7	CD ST		<u> </u>	ALENDAR		DECLI -NA -TION (DEG)		MINI - MUM NADIR (DEG)	TOT (MIN. AFTER ANO)	SPIN RATE (DEG /SEC)			MINU -TES W/R/T ANO	FROM- TO-	REE	ш - ј
155.72 23.17.27 1/14/4 209 13.0 286.0 22.7 8.0 52.25 -6.0 1-180 3 21.1 1/14/4 210 13.4 286.0 22.7 8.0 22.75 -6.0 1-180 3 23.2 -101.00 15.31.30 1/15/4 210 11.9 286.0 21.7 01.5 52.478 -6.0 1-180 3 23.2 -101.00 15.31.30 1/15/4 210 11.9 286.0 21.7 01.5 52.478 -6.0 1-180 3 10.6 -102.3 1.14.00 1.15/4 210 18.3 286.0 21.7 01.5 52.478 -6.0 1-180 3 10.6 -102.3 1.14.00 22.25.22.1 1/16/4 211 25.6 288.0 19.1 13.1 52.83 -74.4 17.25.3 10.6 -26.2 1.25.2 1/16/4 211 25.6 288.0 19.2 13.1 52.83 -74.5 1.25.3 10.6 -26.2 1.25.2 1/16/4 211 25.6 288.0 19.2 13.1 52.33 -24.3 22.442 10.2 -26.2 1/17/4 212 26.2 288.1 19.1 19.2 13.1 52.23 -24.3 22.442 10.2 -26.2 1/17/4 212 26.2 288.1 19.1 19.2	2	- 7	8*25*1	1	10	11.7	7	23.4	8.5	2.54	-34.5	8*34* 3	8.8		53	6
121.1.4 C. 6.454.51 1/15/4 210 113.4 286.0 22.7 8.9 52.525 -56.0 1×18 * 3 23.2 -101.00 15×11*30 1/15/4 210 117.9 287.0 21.7 10.5 52.478 -84.5 15×42* 3 10.6 -125.67 11*8 8.55 1/15/4 210 18.3 286.9 21.6 10.6 52.473 -74.4 17.25*33 16.6 -150.34 18*46*19 1/15/4 210 18.7 286.9 21.6 10.6 52.477 -6.93 18*56*33 10.2 -150.34 18*46*19 1/15/4 211 25.6 288.0 19.3 13.1 52.383 -74.9 27.42*3 19.8 -150.25 25×22*13 1/16/4 211 26.0 288.0 19.1 13.2 23.378 -24.32*3 19.8 -150.28 1×37*2 1/11/4 212 27.2 288.1 19.1 19.1 12.352 -95.0 21*33 13.9 -155.86 1×37*2 1/11/4 212 27.2 288.1 19.1 19.1 21.35 -95.3 14*46*3 20.7 -166.48 1×37*2 1/11/4 212 27.2 288.1 19.1 14.1 52.352 -95.3 14*46*3 20.7 -166.48 1×37*2 1/11/4 212 27.2 288.1 19.1 14.1 52.352 -95.3 14*46*3 20.7 -166.49 1×38*4 1/11/4 212 27.2 288.9 20.0 14.3 52.344 -95.4 18*1*3 20.7 -167.25 1×38*4 1/11/4 212 27.2 288.9 20.0 14.5 52.236 -43.2 23.4 9.8 -167.13 25×43*18 1/11/4 213 27.9 289.9 20.0 14.5 52.236 -43.2 23.4 9.8 -167.13 25×43*18 1/11/4 213 23.0 28.0 28.0 14.7 52.236 -43.2 23.4 9.8 -167.12 1×38*4 1/11/4 213 29.0 28.0 28.0 14.7 52.236 -71.7 21*46*3 23.4 -167.25 1×38*4 1/11/4 213 29.0 28.0 28.0 14.7 52.236 -71.7 21*46*3 23.4 -167.26 1×38*4 1/11/4 213 29.0 28.0 28.0 14.7 52.236 -71.7 21*46*3 23.4 -167.26 1×38*4 1/19/4 213 29.0 28.0 28.0 15.7 22.236 -71.7 21*46*3 23.4 -167.26 1×38*4 1/19/4 214 29.0 29.0 29.0 15.7 22.236 -71.7 21*46*3 23.4 -167.27 1×48*4 1/19/4 214 29.0 29.0 29.0 15.7 22.236 29.0 29.0 29.0 29.1 29.0 29.1 29.0 29.1 29.0 29.1 29.0 29.1 29.0 29.1 29.0 29.1	~	145.7			O	m	86.	2	•	2,53	0	3*38*3	Ϊ.		53	6.0
-101.00 [5-31-30] [1/15/4 210 [18-3 286-9 21.6 10.6 52-473 -74-4 [17-25-3] [16-6 -150.34] [1-6 -150.	n		*54*5		_	ě	86.	•	•	2.52	56.	*18*	÷		53	68
155.67 17.8 69.55 1/15/4 210 18.3 286.9 21.6 10.6 52.473 -74.4 17.25.33 16.6 -150.34 19.46.19 1/15/4 210 18.7 286.8 21.4 10.8 52.467 -69.3 18.56.33 10.2 -150.34 19.46.19 1/15/4 210 18.7 286.8 21.4 10.8 52.467 -69.3 18.56.33 10.2 -150.32 22.22.21 1/16/4 211 25.6 288.0 19.2 13.1 52.38 -70.9 21.3.33 18.8 -150.25 23.59.37 1/16/4 211 26.0 288.0 19.2 13.4 52.37 -70.6 0.21.33 21.9 -150.28 1.37.2 1/17/4 212 26.1 288.1 19.0 13.4 52.37 -71.0 22.2.33 21.9 -16.48 1.37.2 1/17/4 212 27.2 288.8 19.8 14.1 52.32 -71.0 2.2.33 25.5 -16.48 1.37.2 1/17/4 212 27.2 288.8 19.9 14.3 52.32 -71.0 2.2.33 25.5 -16.48 1.37.4 212 27.4 288.8 19.9 14.3 52.32 -71.0 2.2.33 20.3 -16.48 1.37.4 212 27.4 288.9 19.0 14.3 52.32 -4.32 23.9 33 20.3 -16.49 1.3.5 1.3.54.3 1/18/4 212 27.4 288.9 20.0 14.5 52.23 -4.32 23.9 33 20.3 -16.40 1.3.5 1.3.54.3 1/18/4 213 29.9 289.0 20.0 14.5 52.23 -4.32 23.9 33 20.3 -16.40 2.1.52.4 1/18/4 213 29.4 289.9 20.0 14.5 52.22 -71.7 21.46.3 30.0 -16.59 1.3.4 2.1 1/18/4 214 20.4 289.9 20.9 14.5 52.23 -71.7 21.46.3 30.0 -16.59 1.3.4 2.1 1/18/4 214 20.4 289.9 20.9 15.6 52.23 -71.7 21.46.3 30.0 -16.59 1.4.4 1.19/4 214 20.4 289.9 20.9 15.6 52.23 -71.7 21.46.3 30.0 -16.59 1.4.4 1.19/4 214 20.4 289.9 20.9 15.6 2.23 -71.7 21.46.3 30.0 -16.59 1.4.4 1.19/4 214 20.4 289.9 20.9 15.6 2.23 20.2	7	- 101	· .		210	7.	87.	-	•	2.47	84.	5*42*	်		54	o o
150.24 18.466.19 1/15 / 4 210 18.7 286.8 21.4 10.8 52.467 69.3 18.56.33 10.2 150.22 22.22.213 1/16 / 4 211 25.0 288.0 19.2 13.1 52.38 -70.9 21.3 18.8 150.22 22.22.213 1/16 / 4 211 26.0 288.0 19.2 13.2 22.378 -24.3 22.42.3 19.8 150.25 23.59.37 1/16 / 4 211 26.1 288.1 19.0 13.4 52.372 -57.6 0.21.33 21.9 150.28 1.37. 2 1/17 / 4 211 26.1 288.1 19.1 13.5 22.372 -57.6 0.21.33 21.9 150.28 1.37. 2 1/17 / 4 212 26.2 288.1 19.1 13.5 22.372 -57.6 0.21.33 21.9 16.13 22.43.18 1/17 / 4 212 27.2 288.8 19.8 14.1 22.225 -95.3 14.46.3 3.6.5 16.13 22.43.18 1/17 / 4 212 27.2 288.8 19.9 14.1 22.225 -95.3 14.46.3 3.6.0 16.13 22.43.18 1/17 / 4 212 27.2 288.9 20.0 14.5 22.236 -43.2 23.433 20.7 16.13 22.43.18 1/17 / 4 213 29.9 20.0 14.5 22.236 -43.2 23.433 20.7 16.13 22.44.23 1/18 / 4 213 29.4 28.9 20.0 14.5 22.226 -43.1 23.46.33 20.4 16.13 22.14.4.23 1/18 / 4 213 29.4 28.9 20.0 15.8 22.236 -43.2 23.46.43 23.4 16.14 21.44.4 21.3 29.4 28.9 20.0 15.8 22.226 -41.7 23.46.43 23.4 16.14 21.44.4 21.4 21.4 20.4	7	-125	17* 8*5		210	æ	86.	21.6	·	2.47	74.	*25*3	•		54	o
174.89 25.444.88 1/16/4 211 25.6 288.0 19.3 13.1 52.383 -70.9 21.9 3.33 18.8 150.22 22.222313 1/16/4 211 26.0 288.0 19.2 13.2 52.378 -24.3 22.422 3 19.8 100.88 13.7 22.422 3 17.6 4 211 26.1 288.1 19.0 13.4 52.372 -57.6 0.21.933 21.9 21.9 20.0 288.1 100.88 1.377 2 2 2 2 2 2 2 2 2	2	-150	18*46*1		210	®	86		•	2.46	•	8*56*3	•		54	o
150.22 22+22+13 1/16/4 211 26.0 288.0 19.2 13.2 52.43* 22*42* 3 19.8 125.5 125.5 23+59+37 1/16/4 211 26.1 288.1 19.0 13.4 52.372 57.6 0*21*33 21.9 21.9 20.0 20.0 21.9 2	m	174.8	5*55±3		211	Š	88	•	m	2.38	70	1* 3*3	œ		54	
125.55 23.594.37 1/16/4 211 26.1 288.1 19.0 13.4 52.372 -57.6 0.2114.33 21.9 21.0 26.49 14.316.1 1.11/4 21.2 26.2 288.1 19.1 13.5 52.367 -71.0 2. 2. 2.33 25.5 -96.49 14.316.1 1/17/4 21.2 27.2 288.8 19.9 14.1 52.325 -95.3 14.466 3 9.8 16.0 14.5 52.325 -95.3 14.466 3 9.8 16.0 16.11 1.5 1.5 1.2 24.47 21.2 27.4 288.8 20.0 14.5 52.326 -93.2 29.3 3.33 20.7 16.11 2. 2. 2. 43.1 2. 2. 2. 2. 3. 3. 3 20.7 16.11 2. 2. 2. 2. 3. 3. 3 20.7 16.11 2. 2. 2. 2. 3. 3. 3 20.7 16.11 2. 2. 2. 2. 3. 3. 3 20.7 2. 2. 2. 3. 3. 3 20.7 20.1 2. 2. 2. 2. 3 2. 2. 3 20.7 20.1 2. 2. 2. 2. 3 2. 2. 3 20.7 20.1 2. 2. 2. 2. 3 2. 2. 3 2. 2. 3 20.7 20.1 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 3 20.7 20.1 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2.	m	150.2	2*22*1		211	•	88.	• 6	~	2.37	24.	2*42*	6		54	÷1
100.88	m	125.5	3*59*3		211	26.1	88	6	3.	2.37	۲.	*21*3	-		54	÷1
-96.49 14*36*16 1/17/4 212 27.4 288.8 19.9 14.3 52.314 -95.4 18*1*3 10.0 164.81 21* 5*54 1/17/4 212 27.6 288.9 20.0 14.5 52.304 -84.7 21*26*33 20.7 164.81 21* 5*54 1/17/4 212 27.6 288.9 20.0 14.5 52.304 -84.7 21*26*33 20.7 164.81 21* 5*54 1/17/4 212 27.6 288.9 20.0 14.5 52.304 -84.7 21*26*33 20.7 115.46 C*20*42 1/18/4 213 2*0.7 288.9 20.0 14.5 52.298 -43.2 23*3*33 20.3 115.46 C*20*42 1/18/4 213 2*0.7 288.9 20.1 14.5 52.298 -43.2 23*3*33 20.3 115.46 C*20*42 1/18/4 213 2*0.7 289.9 20.1 14.5 52.298 -62.1 2*36*8 3*0.0 154.72 21*26*59 1/18/4 213 2*0.7 289.9 20.9 15.7 52.288 -62.1 1*4*6*3 19*6 156.72 21*26*59 1/18/4 213 2*0.4 289.9 20.9 15.7 52.289 -62.1 2*36*8 3 30.0 156.73 21*26*59 1/18/4 213 2*0.4 289.9 20.9 15.7 52.289 -62.1 2*36*3 2*2.6 156.73 21*26*59 1/18/4 214 20.5 2*0.1 21.0 15.9 52.219 -73.2 2*3*26*3 2*2.7 156.73 2*19*12 1/19/4 214 20.5 2*0.1 21.0 15.9 52.219 -73.2 2*3*26*3 3*7*4 164.46 21*48 4 1/19/4 214 20.5 2*0.3 2*1*1 16.0 52.209 -66.4 2*56*3 3*7*4 119.97 23*25*29 1/19/4 214 30.8 291.1 21.6 16.8 52.110 -57.9 2*4*7*3 22.1 119.97 23*25*29 1/19/4 214 30.8 291.5 21.9 17.1 52.140 -59.8 13*50*28 9.4 119.97 23*25*29 1/19/4 214 215 30.9 291.6 22.0 17.3 52.190 -57.9 1*28*3 25.7 110.2.8 14*2 8 1/20/4 215 30.9 291.6 22.0 17.3 52.190 -57.9 1*28*3 25.7	ĸ	100.8	37*		212	•	88.	6	3	2.36	7.1	* 2*3	Š		54	÷1
145.84 1751.6 1177 212 27.4 288.8 19.9 14.3 52.314 -95.4 18* 1** 3 16.0 164.81 21.6 27.6 288.9 20.0 14.5 52.304 -84.7 212.656.33 20.7 140.13 22.434.18 1/17/4 212 27.6 288.9 20.0 14.5 52.236 -43.2 23* 34.3 20.7 115.46 0.*243.18 1/17/4 212 27.9 288.9 20.0 14.5 52.236 -43.2 23* 34.3 20.7 115.46 0.*204.2 1/18/4 213 29.0 289.9 20.1 14.7 52.236 -71.8 0.44*33 20.9 115.46 1/18/4 213 29.0 289.7 20.1 14.7 52.28 -71.7 2146*23 20.0 156.77 21.26 289.9 20.1 14.7 52.28 -71.7 2146*23 20.9 156.77 21.26 289.9 20.1	-	4.96-	14*36*16		212	٠.	88	9.	14.1	2.32	95.	*95*	8.6		54	+2
164.81 21. 5 + 54.54 1/17/4 212 27.6 288.9 20.0 14.5 52.304 -84.7 21*265+33 20.7 140.13 22*43*18 1/17/4 212 27.8 288.9 20.0 14.5 52.298 -43.2 23*3*3*3 20.3 115.46 C*20*42 1/18/4 213 27.9 288.9 20.1 14.6 52.298 -43.2 23*3*3*3 20.3 -131.25 16*3** 1/18/4 213 28.9 289.0 20.1 14.6 52.298 -62.1 2*36*8 38.0 -131.25 16*3**** 1/18/4 213 29.0 289.7 20.7 15.5 52.240 -82.1 16*4*** 38.0 150.75 21*26*** 21 29.0 289.7 20.7 15.5 52.240 -82.1 16*4*** 38.0 150.53 24*23 1/18/4 213 29.4 289.9 20.9 15.7 52.240 -82.1 16*4*** 38.0 </td <td>2</td> <td>-145.8</td> <td>19</td> <td></td> <td>212</td> <td></td> <td>88.</td> <td>σ</td> <td>4</td> <td>2.31</td> <td>95.</td> <td>8* 1*</td> <td>16.0</td> <td></td> <td>54</td> <td>÷2</td>	2	-145.8	19		212		88.	σ	4	2.31	95.	8* 1*	16.0		54	÷2
140.13 22.43318 1/17/4 212 27.9 288.9 20.0 14.5 52.293 -43.2 23* 3*33 20.3 115.46 C*20*42 1/18/4 213 27.9 288.9 20.1 14.6 52.293 -71.8 0*44*33 20.3 90.79 1*58*7 1/18/4 213 289.0 20.1 14.7 52.288 -62.1 2*36*8 38.0 -131.25 1*6*34*46 1/18/4 213 29.0 289.7 20.7 15.5 52.226 -71.7 2*36*8 38.0 154.72 21*26*59 1/18/4 213 29.3 289.9 20.9 15.7 52.226 -71.7 2*46*83 7.8 130.05 22*4*23 1/18/4 213 29.4 289.9 20.9 15.7 52.21 -73.2 23*26*33 7.8 195.78 24*1 213 29.4 289.9 20.9 15.4 52.21 -73.2 23*26*3 7.8 19	3	164.8	1* 5#5		212	•	88	20.0	4	2.30	84.	6+3	20.7		54	5 + 5
115.46	c	140.1	2*43*1		212	۲.	88	20.0		2.29	43.	3* 3*3	•		57	42
90.79 1.58* 7 1/18/ 4 213 28.0 289.7 20.1 14.7 52.288 -62.1 2*36* 8 38.0 -131.25 16*34*46 1/18/ 4 213 29.0 289.7 20.7 15.5 52.240 82.1 16*42*33 7.8 154.2 12*26*59 1/18/ 4 213 29.0 289.7 20.9 15.7 52.225 71.7 21*46*33 19.6 136.7 23*26*33 10.6 130.7 23*44*23 1/18/ 4 214 29.5 290.1 21.0 15.9 52.219 73.2 23*26*33 22.2 105.38 17.8 1/19/ 4 214 29.5 290.1 21.0 15.9 52.219 73.2 23*26*33 24.8 10.5 1/19/ 4 214 29.5 290.1 21.0 15.9 52.219 73.2 23*26*33 24.8 10.5 1/19/ 4 214 29.5 290.1 21.0 15.9 52.219 73.2 23*26*33 37.4 291.9 105.9 13*41*2 1/19/ 4 214 30.3 291.1 21.6 16.8 52.172 95.8 13*50*28 9.4 1/19/ 4 214 30.3 291.5 21.9 17.1 52.146 60.5 22*8*33 20.5 119.97 23*25*29 1/19/ 4 214 30.8 291.5 21.9 17.1 52.146 60.5 22*8*33 20.5 119.97 23*25*29 1/20/ 4 215 30.9 291.6 22.0 17.3 52.135 74.2 1*28*33 25.7 2.1 20.2 17.3 52.135 74.2 1*28*33 10.9 20.5 17.2 72.4 18.1 52.093 79*0 14*13*3 10.9	n	115.4	* 50 *		_	۲.	88.	0	4	2.29	71.	*44*3	m		25	45
154.72 21*26*59 1/18/ 4 213 29.0 289.7 20.7 15.5 52.240 -82.1 16*42*33 7.8 154.72 21*26*59 1/18/ 4 213 29.3 289.9 20.9 15.7 52.225 -71.7 21*46*33 19.6 150.05 23* 4*23 1/18/ 4 213 29.4 289.9 20.9 15.7 52.225 -71.7 21*46*33 19.6 150.05 23* 4*23 1/18/ 4 214 29.5 290.1 21.0 15.9 52.214 -59.3 1* 6*33 22.2 80.71 2*19*12 1/19/ 4 214 29.6 290.3 21.1 16.0 52.299 -66.4 2*56*33 37.4 -91.99 13*41* 2 1/19/ 4 214 30.3 291.1 21.6 16.8 52.172 -95.8 13*56*28 9.4 119.97 23*25*29 1/19/ 4 214 30.3 291.5 21.9 17.1 52.146 -60.5 22* 8*33 20.5 119.97 23*25*29 1/20/ 4 215 30.9 291.6 22.0 17.3 52.135 -47.2 1*28*33 25.1 -102.06 14* 2** 8 1/20/ 4 215 31.5 292.7 22.4 18.1 52.093 -94.0 14*13* 3 10.9	2	7.06	* 58 *		-	φ.	89.	0		2.28	62.	*36*	38.0		24	45
156.72 21*26*59 1/18/ 4 213 29.3 289.9 20.9 15.7 52.225 -71.7 21*46*33 19.6 130.05 23*44*23 1/18/ 4 213 29.4 289.9 20.9 15.8 52.219 -73.2 23*26*33 22.2 105.38 C*41*48 1/19/ 4 214 29.6 290.1 21.0 15.9 52.214 -59.3 1* 6*33 24.8 90.71 2*19*12 1/19/ 4 214 29.6 290.3 21.1 16.0 52.209 -66.4 2*56*33 37.4 -91.99 13*41* 2 1/19/ 4 214 30.3 291.1 21.6 16.8 52.172 -95.8 13*50*28 9.4 144.64 2 1/19/ 4 214 30.3 291.1 21.0 17.1 52.146 -60.5 22*8*33 20.5 119.97 2 2 20.5 20.9 17.2 52.146 -60.5 22*8*833 20.1 <	2	-131.2	6#34#		213	6	89.	0	'n	7	82.	*42+3	7.8		25	43
130.C5 23* 4*23 1/18/ 4 213 29.4 289.9 20.9 15.8 52.219 -73.2 23*26*33 22.2 105.38 C*41*48 1/19/ 4 214 29.6 290.1 21.0 15.9 52.214 -59.3 1* 6*33 24.8 90.71 2*19*12 1/19/ 4 214 29.6 290.3 21.1 16.0 52.209 -66.4 2*56*33 37.4 -91.99 13*41* 2 1/19/ 4 214 30.3 291.1 21.6 16.8 52.172 -95.8 13*56*28 9.4 144.64 21*48* 4 1/19/ 4 214 30.3 291.1 21.1 52.146 -60.5 22* 8*33 20.5 119.97 23*25*29 1/19/ 4 214 30.8 291.5 21.9 17.2 52.146 -60.5 22* 8*33 20.5 95.29 1* 2*53 1/20/ 4 215 30.9 291.6 22.0 17.3 52.146 -60.5 22* 8*33 20.5 -102.08 1* 2*53 1/20/ 4 215 30.9 291.6	6	154.7	21+26+59	_	_	6	89.		S	2.22	7.1	£49+±	19.6		35	4 3
105.38 C*41*48 1/19/4 214 29.5 290.1 21.0 15.9 52.214 -59.3 1* 6*33 24.8 90,71 2*19*12 1/19/4 214 29.6 290.3 21.1 16.0 52.209 -66.4 2*56*33 37.4 -91.99 13*41*2 1/19/4 214 30.3 291.1 21.6 16.8 52.172 -95.8 13*56*28 9.4 144.64 21*48*4 1/19/4 214 30.3 291.4 21.9 17.1 52.146 -60.5 22* 8*33 20.5 119.97 23*25*29 1/19/4 214 30.8 291.5 21.9 17.2 52.140 -57.9 23*47*33 22.1 95.29 1* 2*5 1/20/4 215 30.9 291.6 22.0 17.3 52.135 -47.2 1*28*33 25.7 -102.C8 14* 2* 8 1/20/4 215 292.7 22.4 18.1 52.093 -94.0 14*13*3 10.9	n	130.0	3* 4*2	_	213	6	89.	ċ	5	2.21	ë	3*26*3	2		25	£3
80.71 2*19*12 1/19/ 4 214 29.6 290.3 21.1 16.0 52.209 -66.4 2*56*33 37.4 -91.99 13*41* 2 1/19/ 4 214 30.3 291.1 21.6 16.8 52.172 -95.8 13*56*28 9.4 144.64 21*44*4 214 30.3 291.1 21.9 17.1 52.146 -60.5 22*8*833 20.5 119.97 23*25*29 1/19/ 4 214 30.8 291.5 21.9 17.2 52.140 -57.9 23*47*33 22.1 95.29 1* 2*53 1/20/ 4 215 30.9 291.6 22.0 17.3 52.135 -47.2 1*28*33 25.1 -102.C8 14* 2* 8 1/20/ 4 215 30.9 291.6 22.0 17.3 52.135 -47.2 1*28*33 25.7	6	105.3	C*41*4		214	6	90.	21.0	5	2.21	•	* 6*3	4		25	43
-91.99 13*41* 2 1/19/ 4 214 30.3 291.1 21.6 16.8 52.172 -95.8 13*50*28 9.4 144.64 21*48* 4 1/19/ 4 214 30.8 291.4 21.9 17.1 52.146 -60.5 22* 8*33 20.5 119.97 23*25*29 1/19/ 4 214 30.8 291.5 21.9 17.2 52.140 -57.9 23*47*33 22.1 95.29 1* 2*53 1/20/ 4 215 30.9 291.6 22.0 17.3 52.135 -47.2 1*28*33 25.7 -102.C8 14* 2* 8 1/2C/ 4 215 31.5 292.7 22.4 18.1 52.093 -94.0 14*13* 3 10.9	2	90	2*19*1		214	6	90	21.1	•	2.20	.99	26#3	7		25	43
144.64 21*48* 4 1/19/ 4 214 30.7 291.4 21.9 17.1 52.146 -60.5 22* 8*33 20.5 119.97 23*25*29 1/19/ 4 214 30.8 291.5 21.9 17.2 52.140 -57.9 23*47*33 22.1 95.29 1* 2*53 1/20/ 4 215 30.9 291.6 22.0 17.3 52.135 -47.2 1*28*33 25.7 -102.C8 14* 2* 8 1/2C/ 4 215 31.5 292.7 22.4 18.1 52.093 -94.0 14*13* 3 10.9	_	-91.9	13*41*		214		91.	21.6	•	.17	95.	3*56*2	•		Š	7 7
119.97 23*25*29 1/19/ 4 214 30.8 291.5 21.9 17.2 52.140 -57.9 23*47*33 22.1 54 54 54 54 54 54 54 54 54 54 54 54 54	m	144.6	21#48#		214	•	91.	•	-	. 14	69.	2* 8*3	•		Š	5 7 7
95.29 1* 2*53 1/20/ 4 215 30.9 291.6 22.0 17.3 52.135 -47.2 1*28*33 25.7 54.0 14*13* 3 10.9 54 54.0 14*13* 3 10.9 54 54 54.0 14*13* 3 10.9 54 54 54.0 14*13* 3 10.9 54 54 54.0 14*13* 3 10.9 54 54 54.0 14*13* 3 10.9 54 54 54 54.0 14*13* 3 10.9 54 54 54 54 54.0 14*13* 3 10.9 54 54 54 54 54.0 14*13* 3 10.9 54 54 54 54 54 54 54 54 54 54 54 54 54	L.	119.9	2		214	30.8	91.	21.9	۲.	~	57.	3*47*3	~		Ġ	44
-102.E8 14* 2* 8 1/20/ 4 215 31.5 292.7 22.4 18.1 52.093 -94.0 14*13* 3 10.9	E.U	95.2	1* 2*5		215		91.	22.0		2.13	4	*28*3	25.7		ž.	4 4
	-	- 102	14* 2*		215	•	92	22.4	œ	2.09	94	*13*	16.9			45

			REACOUT	_				ORBIT			TIME I	INTERVAL OF	FILE ON	N FMR TAPE	
		SATELLITE	E ECUATOR ASCENDING	CROSSIN	S AT	SPIN	VECTOR	ATTITUDE	rude		BEGIN	n S	٥	DROPOUTS, MINUTES	•
ORBIT NO.	CDA STA	EARTH LONGI -TUDE (DEG)	HOURS VINCTES SECCNDS (GMT)	ALENDAR	TIROS	DECLI -NA -TION (DEG)	RIGHT ASCEN -SIGN (DEG)	MINI -MUN NADIR (DEG)	TOT (MIN. AFTER AND)	SPIN RATE (DEG /SEC)	MINU -TES W/R/T ANG	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T AND	W/R/T AND FROM- TO-	FMR TAPE REEL NO.
3182	2	-126.75	15*39*32	1/20/ 4	215	31.6	292.8	22.5	18.2	52.088	-15.0	15*46*33	7.0		545
3183	2	-151.42	17*16*56	1/20/ 4	215	31.7	292.9	22.5	18.3	52.082	-83.5	17*27*33	10.6		545
3185	6	159.23	20*31*45	1/20/ 4	215	31.8	293.0	22.6	18.4	52.072	-57.3	20*53* 3	21.3		545
3187	ю	109.88	23#46#34	1/20/ 4	215	32.0	293.3	22.7	18.6	52.061	4-41-4	0*10* 3	23.5		545
3195	-	-87.51	12*45*49	1/21/ 4	216	32.5	294.5	23.1	19.4	52.019	-67.1	12*56* 3	10.2		9.49
3196		-112.18	14*23*13	1/21/ 4	216	32.6	294.6	23.1	19.5	52.014	-80.3	14*36* 3	12.8		546
3197	7	-136.86	16* 0*37	1/21/ 4	216	32.6	294.6	23.2	19.6	52.009	0.67-	16*10* 3	7. 6		546
3198	2	-161.53	17*38* 2	1/21/ 4	216	32.6	294.7	23.2	19.7	52.004	-82.1	17*50*33	12.5		546
3199	ĸ	173.78	19*15*26	1/21/ 4	216	32.7	294.8	23.3	19.8	51.998	-52.2	19*35*33	20.1		546
3200	-	149.11	20*52*50	1/21/ 4	216	32.8	294.9	23.3	19.9	51,993	-70.8	21*27* 3	34.2		546
3201	-	124.44	22*30*15	1/21/ 4	216	32.8	295.0	23.3	20.0	51.988	-56.0	23* 7* 3	36.8		546
3202	м	99.77	6# 1#3	1/22/ 4	217	32.9	295.1	23.3	20.0	51.983	-48.0	0*33* 3	25.4		546
3203	7	75.10	1*45* 3	1/22/ 4	217	33.0	295.3	23:3	20.1	51.978	-66.2	2*24* 3	39.0		546
3210	-	09.76-	13* 6*54	1/22/ 4	217	33•3	296.3	27.6	20.8	51.941	6.46-	13*17* 3	10.2		547
3211	-	-122.27	14*44*18	1/22/ 4	217	33.3	296.4	23.6	20.9	51.936	-81.8	14*58* 3	13.8		547
3212	~	-146.94	16*21*42	1/22/ 4	217	33.4	296.5	23.7	21.0	51.930	-78.7	16*31*33	6.6		247
3214	-	163.70	16*36*31	1/22/ 4	217	33.4	296.8	23.8	21.2	51.920	-69.3	20* 7* 3	30.5		247
3215		139.03	21+13+56	1/22/ 4	217	33.5	296.9	23.8	21.3	516.13	-43.6	21*47*33	33.6		247
3216	7	114.36	22*51*20	1/22/ 4	217	33.5	297.0	23.8	21.4	51.910	-32.2	23*23*33	32.2		547
3217	2	89.68	C+28+44	1/23/ 4	218	33.6	297.2	23.8	21.5	51.964	9.65-	1* 4*33	35.8		547
3225	-	-107.69	13*27*59	1/23/ 4	218	33.8	298.4	24.0	22.3	51.863	-31.8	13*39*33	11.6		548
3226	2	-132.35	15* 5*23	1/23/ 4	218	33.8	298.5	24.0	22.4	51.858	-80.5	15*13* 3	7.7		548
3227	2	-157.03	16*42*48	1/23/ 4	218	33.9	298.6	24.0	22.5	51.852	-84.4	16*55* 3	12,3		548
3229	-	153.62	19*57*36	1/23/ 4	218	33.9	298.8	24.0	22.7	51.842	-72.0	20*30*33	33.0		548
3230	ю	128.94	21*35* 1	1/23/ 4	218	33.9	298.9	24.0	22.8	51.837	-22.0	21*56*33	21.5		548
3231	2	104.27	23*12*25	1/23/ 4	218	34.0	299.1	24.0	22.9	51.832	-70.4	23*47* 3	34.6		548

+ بـ	SATELLITE ECUATOR	CROSSIN	G AT	SPIN	VECTOR	ATTITUDE	rude		BEGIN	ш		DROPOUTS, MINUTES	
_ '	<u>_</u>	ALENDAR	⊋l'	DECL I	RIGHT	MINI	TOT	NIds	MINU	HOURS	ONIW	W/R/T AND	FMR
LCNGI -TUDE (DEG)	LCNGI MINUTES -TUDE SECCNDS (DEG) (GMT)	DATE	DAY	-NA -TION (DEG)	ASCEN -SION (DEG)	-MUM NADIR (DEG)	AFTER AND)	(DEG /SEC)	W/R/T AND	SECONDS (GMT)	W/R/T AND	FROM- TO-	REEL NO.
	.10 12*11*46	1/24/ 4	219	34.1	300.2	24.1	23.6	51.790	-94.2	12*21* 3	4.6		549
117.7	7 13*49* 4	1/24/ 4	219	34.1	300.3	24.1	23.7	51.785	-80.1	14* 2* 3	13.0		549
142.44	4 15*26*29	1/24/ 4	219	34.1	300.4	24.1	23.8	51.780	-79.1	15*36* 3	9.6		549
•20	0 18*41*17	1/24/ 4	219	34.1	300.6	24.1	24.0	51.770	-74.9	19*11*33	30.3		549
5.	3 2C*18*42	1/24/ 4	219	34.1	300.7	24.1	24.0	51.765	-44.0	20*52*33	33.9		549
.86	6 21*56* 6	1/24/ 4	219	34.1	300.8	24.1	24.1	51.759	-52.2	22*19* 3	23.0		546
7	9 23*33*30	1/24/ 4	219	34.1	300.9	24.1	24.2	51,754	18.6	0* 8*33	35.1		549
78.5	1 10*55*21	1/25/ 4	220	34.1	301.8	24.1	24.9	51.718	-82.6	11* 5* 3	4.1		550
103.1	8 12*32*45	1/25/ 4	220	34.1	301.9	24.1	24.9	51.713	-80.0	12*43* 3	10.3		550
7.8	5 14*10* 9	1/25/ 4	220	34.1	302.0	24.1	25.0	51.708	-81.6	14*26* 3	15.9		550
52.52	2 15*47*34	1/25/ 4	220	34.1	302.1	24.1	25.1	51.703	-76.0	15*58* 3	10.5		550
58.1	2 19# 2#22	1/25/ 4	220	34.1	302.2	24.1	25.3	51.693	-73.8	19*33*33	31.2		550
133.4	5 20*39*47	1/25/ 4	220	34.1	302.3	24.0	25.4	51.688	-63.0	21*14*33	34.8		550
108.7	8 22*17*11	1/25/ 4	220	34.1	302.4	24.0	25.5	51.682	-49.3	22*40*33	23.4		550
4.11	1 23*54*35	1/25/ 4	220	34.1	302.6	24.0	25.6	51.677	-68.1	0+31+33	37.0		550
8.5	9 11*16*26	1/26/ 4	221	33.9	303.5	23.8	26.3	51.642	-96.1	11+25+28	0.6		551
113.2	6 12*53*50	1/26/ 4	221	33.9	303.6	23.8	26.4	51.636	-83.0	13* 6* 3	12.2		551
137.9	4 14*31*15	1/26/ 4	221	33.9	303.7	23.8	26.5	51.631	-78.7	14*40* 3	& •		551
162.6	1 16* 8*39	1/26/ 4	221	33.9	303.8	23.8	26.5	51.626	-82.4	16*22*33	13.9		551
172.71	1 17*46* 3	1/26/ 4	221	33.8	393.9	23.8	26.5	51.621	-74.3	18*16*33	36.5		155
148.04	4 19*23*29	1/26/ 4	221	33.8	304.0	23.7	26.6	51.616	-61.2	19*57*33	34.1		551
98.6	9 22*38*16	1/26/ 4	221	33.8	304.2	23.7	26.8	51.636	9.69-	23*13*33	35.3		551
-98.68	8 11*37*31	1/21/ 4	222	33.6	305.1	23.4	27.6	51.566	-94.7	11*47*33	16.0		552
123.3	13*14*55	1/21/ 4	222	33.5	305.2	23.4	27.7	51.561	-82.3	13*28*33	13.6		552
148.C	2 14*52*19	1/27/ 4	222	33.5	305.3	23.4	27.8	51.555	-72.8	15* 2* 3	7.6		552

•			NO.	552	552	552	553	553	553	553	553	553	553	554	554	554	555	555	555	555	555	555	555	556	556	556	556	556
N FMR TAPE	DROPOUTS	W/R/T AND	FROM- TO																									
FILE ON	۵	MINU	W/R/T	33.0	32.6	37.2	10.5	7.6	11.1	31.3	36.4	35.0	9.04	9.3	13.9	6.5	8.5	12.1	8.7	14.3	30.9	33.0	26.1	10.4	16.0	10.6	32.8	36.9
INTERVAL OF	Z W	HOURS	SECONDS (GMT)	20*17*33	21*54*33	23*36*33	12* 9* 3	13*43*33	15*24*33	18*59*33	20*42* 3	22*18* 3	0* 1* 3	10*51*33	12*33*33	14* 6*33	9*55*33	11*36*33	13*10*33	14*53*33	16*47*33	18*27* 3	19*57*33	10*18*33	12* 1*33	13*33*33	17*10*33	18*52* 3
TIME I	BEGIN	ONIM	W/R/T AND	-61.2	-58.4	-58.9	-68.0	-81.3	-84.3	-73.2	-59.2	-55.5	-57.0	-95.7	-83.0	-78.6	-41.9	-83.5	-80.2	-84.4	-34.3	-61.5	-43.3	-15.4	-81.6	-76.6	10.8	-58.6
		SPIN	(DEG /SEC)	51.543	51.537	51.532	51.489	51.484	51.478	51.468	51.462	51.457	51.451	51.413	51.408	51.402	51.254	51.249	51.243	51.238	51.232	51.227	51.221	51.171	51.166	51.160	51.149	51.144
	TUDE	TOT	AFTER ANO)	28.0	28.0	28.1	29.0	29.1	29.5	29.5	59.6	29.7	29.8	30.9	31.1	31.2	35.1	35.2	35.3	35.4	35.6	35.7	35.8	36.6	36.6	36.7	36.7	36.8
ORBIT	ATTI	INIM	NADIR (DEG)	23.2	23.2	23.1	22.8	22.8	22.8	22.9	22.9	22.8	22.7	22.8	22.9	23.0	2.	23.3	23.4	23.5	23.6	23.6	23.6	22.3	22.2	22.C	21.7	21.5
	VECTOR		SION DEG)	305.6	305.7	305.8	307.2	307.4	307.5	307.7	307.9	308.2	308.6	310.9	311.0	311.1	316.9	316.9	317.0	317.0	317.0	317.1	317.1	317.7	317.7	317.8	317.8	317.8
	SPIN	DECL I	-TION (DEG)	33.4	33.4	33.4	32.8	32.7	32.5	32.3	32.2	32.1	32.0	30.3	30.1	29.9	22.7	22.4	22.0	21.8	21.5	21.3	21.1	20.7	20.7	20.1	20.7	20.7
	AT NO.		DAY	222	222	222	223	223	223	223	223	223	223	224	224	524	226	226	226	226	226	226	226	227	227	227	227	727
J.	CROSSING	ALENDAR	DATE	1/27/ 4	1/21/ 4	1/27/ 4	1/28/ 4	1/28/ 4	1/28/ 4	1/28/ 4	1/28/ 4	1/28/ 4	1/28/ 4	1/29/ 4	1/29/ 4	1/29/ 4	1/31/ 4	1/31/ 4	1/31/ 4	1/31/ 4	1/31/ 4	1/31/ 4	1/31/ 4	2/ 1/ 4	2/ 1/ 4	2/ 1/ 4	2/ 1/ 4	2/ 1/ 4
REACOUT	TE ECUATOR ASCENDING	HOURS	SECCNDS (GMT)	19*44*32	21*21*57	22*59*21	11*58*36	13*36* 0	15*13*25	18*28*13	20* 5*38	21443# 2	23*20*26	10*42*17	12*19*41	13*57* 5	9*47* 3	11*24*27	13* 1*51	14*39*16	16*16*40	17*54* 4	19*31*29	10*8*8	11*45*32	13*22*56	16*37*45	0 *5.
	SATELLI	EARTH	-TUDE (DEG)	137.96	113.28	88.61	-108.77	-133.45	-158.12	152.53	127.86	103.18	78.51	-94.19	-118.86	-143.53	89.68-	-114.35	-139,03	-163.70	171.62	146.95	122.28	-99.76	-124.44	-149.11	161.54	136 97
		CDA	STA	1	2	2	-	2	7	1		2	2	-		2		-	2	2	1	1	3	1	-	2	-	
		ORBIT	0 7	3288	3289	3290	3298	3299	3300	3302	3303	3304	3305	3312	3313	3314	3341	3342	3343	3344	3345	3346	3347	3356	3357	3358	3360	3361

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		FMR	REEL	55	55	557	55.	557	55	556	556	55	55	55	55	5.5	55	55	55	55	55	55	96	56	260	260	56	560	561
N FMR TAPE	DROPOUTS, MINUTES	W/R/T AND	FROM- TO-																										
FILE 0	0	MINU	W/R/T AND	8.4	12.0	33.2	38.8	25.9	40.5	10.2	13.8	4.6	32.5	36.1	39.3	10.0	12.6	8.2	10.8	24.1	26.7	39.2	6.8	12.5	14.7	20.9	26.0	37.6	10.7
INTERVAL OF	w w	HOURS	SECONDS (GMT)	12*15* 3	13*56* 3	17*32* 3	19*15* 3	20*39*33	22*31*33	9*23* 3	11* 4* 3	12*37* 3	16*15* 3	17*56* 3	21*14* 3	8* 6*33	9*46*33	11*19*33	12*59*33	18* 5* 3	19*45* 3	21*35* 3	8*26*33	10* 7*33	13*24*33	16*45*33	18*28* 3	20*17* 3	8*49*28
TIME II	BEGIN	MINU	W/R/T AND	-80.2	-84.0	20.4	-58.5	-53.4	-64.4	-95.0	-81.5	-78.9	-72.2	-52.0	-65.8	1.46-	-81.4	-78.5	-83.8	-71.6	-68.5	-64.9	-96.1	-81.9	-83.6	-83.8	-71.2	6.6	-17.4
		NIdS	(DEG /SEC)	51.083	51.077	51.066	51.061	51.055	51.050	51.011	51.006	51.000	50.989	50.984	50.958	50.918	50.912	906.05	20.950	50.883	50.877	50.871	50.830	50.824	50.813	50.801	50.795	50.789	50.741
	.ude	101	AFTER ANO)	37.4	37.4	37.6	37.6	37.6	37.6	38.0	38.0	38.1	38.2	38.2	38.3	38.5	38.5	38.6	38.6	38.8	38.8	38.9	39.0	39.1	39.1	39.2	39.3	39.3	39.6
ORBIT	ATTITUD	INIM	NADIR (DEG)	19.8	19.6	19.3	19.1	19.0	18.8	17.5	17.3	17.1	16.7	16.5	16.2	14,9	14.7	14.4	14.2	13.7	13.5	13.3	11.9	11.7	11.3	10.9	10.7	10.5	8.9
	VECTOR	—	SION DEG)	317.7	317.8	317.8	317.8	317.8	317.7	317.8	317.8	317.8	317.9	317.9	317.8	317.7	317.7	317.7	317.7	317.7	317.7	317.7	317.7	317.7	317.7	317.7	317.7	317.6	317.5
	SPIN	DECLI	-NA -TION (DEG)	20.8	20.8	20.7	20.7	20.7	20.7	21.0	21.0	21.6	21.1	21.1	21.1	21.4	21.5	21.5	21.5	21.5	21.6	21.6	22.0	22.0	22.1	22.1	22.2	22.2	22.7
	i z	⊃l⊶	DAY	228	228	228	228	228	228	528	529	529	529	529	528	230	230	230	230	230	230	230	231	231	231	231	231	231	232
UT	CROSS IN	ALENDAR	DATE	2/ 2/ 4	2/2/4	2/ 2/ 4	2/ 2/ 4	2/ 2/ 4	2/ 2/ 4	2/ 3/ 4	2/ 3/ 4	2/ 3/ 4	2/ 3/ 4	2/ 3/ 4	2/ 3/ 4	2/ 4/ 4	2/ 4/ 4	2/ 4/ 4	2/ 4/ 4	2/ 4/ 4	2/ 4/ 4	2/ 4/ 4	2/ 5/ 4	2/ 5/ 4	2/ 5/ 4	2/ 5/ 4	2/ 5/ 4	2/ 5/ 4	2/ 6/ 4
REACCUT	TE ECUATOR	HCURS	SECCADS (GMT)	12* 6*37	13*44* 1	16*58*50	18*36*14	20*13*39	21*51* 3	5*12*53	10.450.18	12*27*42	15*42*31	17*19*55	20+34+44	7*56*34	84488	11+11+23	12*48*47	17*41* 6	19*18*24	20+55+49	8*17*39	9*55*3	13* 9*52	16*24*41	18* 2* 5	19*39*30	6*38*44
	SATELLI	FARTH	LCNG1 -TUCE (DEG)	-134.52	-159.19	151.45	126.78	102.11	77.44	-95.26	-119.93	-144.60	166.04	141.37	92.03	-80.70	-105.37	-130.05	-154.72	131.26	106.58	81.91	-90.19	-115.46	-164.80	145.84	121.17	96.50	-100.87
		CDA	STA	2	٧	7	-	6	2			2	1	-	2	~		2	2	3	3	2	-	-	~	~	٣	2	~
		ORBIT	, D	3372	3373	3375	3376	3377	3378	3385	3386	3387	3389	3390	3332	3339	3400	3451	3402	3475	3436	3407	3414	3415	3417	3419	3420	3421	3423

<u> </u>	•	u		1	-	-	1		1	2	2	2	2	7	2	2	ĸ	m	6	ю	3	8	3	4	4	4	4	2	S
		A Z	A NO	561	561	96	561	561	561	96	26	56	26	562	56	96	56	56	99	56	56	56	99	564	99	96	56	56	56
APE	OUTS, TES	ANO	-01																										
FMR	CROPOL	W/R/T	FROM-																										
FILE ON	Q	MINU	W/R/T AND	16.8	16.5	31.2	21.8	24.9	39.5	8.1	7.3	12.9	21.1	22.7	26.8	40.4	10.1	14.1	9.2	15.3	19.9	24.1	37.7	4.6	11.0	6.6	16.7	9.3	12.9
INTERVAL OF	я Z	HOURS	SECONDS (GMT)	17+32+58	12* 4* 3	15*39*33	17* 7*33	18*48* 3	20*40* 3	7*36*33	10*44*33	12*27*33	15*50*33	17*29*33	19*11* 3	21* 2* 3	7*53*33	9*34*58	11* 7*33	12*51* 3	14*33* 3	17*52* 3	19*43* 3	6*36*33	8*15*33	9*48*33	11*30* 3	6*57*33	8*38*33
TIME I	BEGIN	MINU	W/R/T AND	-81.4	-76.1	-73.4	-60.0	-70.2	6.49-	0.79-	-79.5	-84.3	-72.2	-57.9	-68.8	-64.2	-94.7	-80.9	-78.3	-83.1	-75.8	8-69-	0.19-	-95.7	-82.0	-12.3	-14.0	-13.8	-22.2
		SPIN	(DEG /SEC)	50.735	50.729	50.717	50.711	50.705	669.09	50.657	50.644	50.638	50.626	50.620	50.614	50.638	50.565	50.559	50.552	50.546	50.540	50.528	50.521	50.483	50.477	50.465	50.459	50.353	50.387
	⊃	TOT	AFTER AND)	39.5	39.5	39.6	39.7	39.7	39.7	39.9	40.0	40.0	40.0	40.0	40.0	40.1	40.5	40.2	40.3	40.3	40.3	40.4	40.4	40.4	40.4	40.5	40.5	40.6	40.6
ORBIT	ATTIT	IN I	VADIR (DEG)	8.7	8 5	8.1	7.9	7.7	7.5	6•მ	5.5	5.3	4.9	4.7	4.4	4.2	2.7	2.5	2.2	2.0	1.8	1.3	1.0	٠ 5	-0-7	-1.0	-1.2	-3.9	-4.1
	VECTOR	RIGHT	ASCEN -SION (DEG)	317.5	317.5	317.5	317.4	317.4	317.4	317.3	317.3	317.3	317.3	317.3	317.3	317.2	317.1	317.1	317.1	317.1	317.1	317.1	317.1	316.9	316.9	316.9	316.9	316.6	316.6
	NIdS	DECL I	-3A -T10N (DEG)	22.7	22.7	22.8	22.8	22.9	22.9	23.5	23.6	23.7	23.8	23.8	23.9	24.0	24.6	24.7	24.8	24.8	24.9	25.0	25.1	25.8	25.9	26.0	26.1	27.2	27.3
	G AT	TIROS	DAY	232	232	232	232	232	232	233	233	233	233	233	233	233	234	234	234	234	234	234	234	235	235	235	235	236	236
UT	CROSS IN NOCE (ALENDAR	DATE	2/ 6/ 4	2/ 6/ 4	2/ 6/ 4	2/ 6/ 4	2/ 6/ 4	2/ 6/ 4	2/ 1/ 4	2/ 7/ 4	2/ 7/ 4	2/ 7/ 4	2/ 7/ 4	2/ 7/ 4	2/ 7/ 4	2/8/4	2/ 8/ 4	5/8/4	2/ 8/ 4	2/8/4	2/ 8/ 4	2/ 8/ 4	2/ 9/ 4	5/ 9/ 4	2/ 9/ 4	2/ 9/ 4	2/10/4	2/10/ 4
REACOUT	TE ECUATOR ASCENDING	HOURS	MINUTES SECCINDS (GMT)	10*16* 9	11*53*33	15* 8*22	16*45*46	18*23*10	20* 0*35	7*22*25	10*37*14	12*14*38	15*29*27	17* 6*51	18*44*15	20+21+40	7*43*30	9*20*54	10*58*19	12*35*43	14*13* 7	17*27*56	19* 5*20	6*27*11	8* 4*35	9*41*59	11*19*24	6*48*16	8*25*40
	SATELLI	EARTH		-125.54	-150.21	169.43	135.76	111.09	86.41	-86.28	-135.63	-160.30	150.35	125.67	101.00	76.33	-96.36	-121.64	-145.71	-173.38	164.94	115.59	90.92	-81.78	-106.45	-131.12	-155.79	-91.86	-116.53
		CDA	STA	-	7	7	m	т	2	-	2	2	-	٣	3	~	1	-	2	2	3	67	5		1	2	2	-	,
		ORBIT	• 0N	3430	3431	3433	3434	3435	3436	3443	3445	3446	3448	3449	3450	3451	3458	3459	3460	3461	3462	3464	3465	3472	3473	3474	3475	3487	3488

Column C				REACOUT	1				ORBIT			TIME IN	INTERVAL OF	FILE ON	V FMR TAP	PE	
CLOA CLOATING FLORING TROG DECL RIGHT HIN RIGH HIN RATE TROG CLOATING LEAST HIDIORS TROG CLOATING LEAST HIDIORS TROG CLOATING LEAST HIDIORS TROG LEAST HIDIORS TROG LEAST HIDIORS HIDIOR H			SATELL	🗒]	CROSSI	V 0	NIdS	l ~	ATTII	rude		1	m S		DROPOUTS	1	
	<u>.</u>	CDA	EARTH LCNGI -TUDE	HOURS MINUTES SECCNDS	CALENDAR DATE	IR DA	DECLI -NA -TION		MINI NADIR	TOT (MIN. AFTER	SPIN RATE (DEG	i	HOURS MINUTES SECONDS	MINU -TES W/R/T		AN0 T0-	
14,477 145541 21167 236 27.5 316.6 -5.6 40.7 50.352 13.4 11959-3 14.4 145541 21167 236 27.5 316.6 -5.6 40.7 50.352 13.4 11959-3 20.1 14.477 145541 21167 2316 21.5 316.6 -5.6 40.7 50.352 13.2 13.4 11959-3 20.1 14.477 145541 2117 21				(GMT)	١,) ~	(DEG)	_	(DEG)	40.6	· ~	- 1	10+11+33	ANU 8.5			565
1, 17, 17, 14, 55, 11, 17, 17, 17, 17, 17, 17, 17, 17, 17		, t	7 - 7 - 7	1 4 6 4 5		י מ		9 4	•	•	3,4	, ,	* * * * * * * * * * * * * * * * * * *	• 4			7 65
1-17.29 5-314-56 2/11/	_	7	100	7 * 0 * * I		n	•	0	•	•	• 20	1	***************************************	•			
1		٣	4.7	4*55*1		3	۷.	÷	•	•	0.35	13.	5+15+3	•			565
1 -126.64		-	77.2	5*31*56		3	8	•	•	•	.30	22.	*40*3	•			999
1. 1.26.64			101.9	*		3	œ	•	•	•	0.30	13.	*18*	•			999
2 -151.31 10.224.9 2/11/4 237 28.6 316.4 -7.9 40.7 50.275 -13.1 10.355.33 11.0 10.355.33 11.0 10.3 40.7 50.275 -13.6 60.7 60.198 -12.3 60.2 60.2 9. 99. 1 -112.05 7.307.26 2/12/4 2.38 27.2 316.0 -9.4 41.5 50.192 -12.3 60.2 99. 2 -136.72 9.750 2/12/4 2.38 27.7 316.0 -9.5 41.6 50.192 -12.2 99. 99. 2 -161.39 10.455.11 2/12/4 2.38 27.7 315.8 -9.5 41.6 50.192 -12.2 99. 99. 3 149.25 14.4 2.12/4 2.38 27.7 315.8 -11.1 42.2 50.101 -90.4 41.5 50.102 -12.2 90. 90. 3 149.572.14 2.14 2.2		7	126.6	P*46*45		~	00	16.	T.T-	·	0.29	3.	* 3*3	•			999
1 -87.38 5.53.1 2/12/4 238 27.4 316.1 -9.2 41.4 50.196 -12.3 6.6.2 3 12.2 41.5 50.192 -13.0 7.4.2 316.0 -9.4 41.5 50.192 -13.0 7.4.2 316.0 -9.4 41.5 50.192 -13.0 7.4.2 316.0 -9.4 41.5 50.192 -13.0 7.4.2 316.0 -9.4 41.5 50.192 -13.0 7.4.2 316.0 -9.4 41.5 50.192 -12.2 9.1 7.4.2 31.2 41.6 50.196 -12.2 9.1 7.4.2 31.2 7.4.1 11.2 41.6 50.116 -14.2 9.1 11.4 11.2 11.2 11.2 11.2 11.2 11.2 11.2 11.2 11.2 11.2 11.2 11.2 41.6 50.116 -12.2 9.169.3 11.3 11.3 11.3 11.2 11.1 42.2 50.101 -9.6 11.2 11.2 11.2 <		2	151.3			C)	ထိ	•	•	•	.27	÷	0*35*3	•			995
1 - 112.05		~	87.3	*53*		c		9	•	•	.19	2.	* 2*	•			567
2 -136.72 9.7.45C 2712/4 238 27.2 316.0 -9.4 41.5 50.185 -12.2 9.16.439 19.6 -12.2 9.16.439 19.6 -12.2 9.16.39 27.1 315.8 -9.5 41.6 50.186 -12.2 19.6 19.7 11.1 10.6 50.18 -1.1 10.6 10.19 -11.7 10.6 50.101 -9.4 41.6 50.186 -12.3 11.1 10.6 50.101 -9.4 11.2 41.6 50.181 -12.3 11.7 11.1 42.2 50.101 -9.4 11.6 50.181 10.6 11.2 42.2 50.101 -9.4 11.6 11.7 11.7 42.2 50.101 -9.4 10.6 11.7 11.7 42.2 50.101 -9.4 10.6 11.7 11.7 42.2 50.101 -9.4 10.6 11.7 11.7 10.6 10.1 11.7 10.6 10.1 11.7 10.6 10.1 10.6 10.1		-	112.0	*36*2		m	٧.	9	•	•	.19	13.	*42*3	2.			267
2 -161.39 1C**65*14 27127 238 27.1 315.9 -9.5 41.6 60.179 -11.7 10*58*33 13. 3 149.25 14**0*3 27127 238 27.0 315.7 -11.1 42.2 50.101 -94.5 6*24*33 13. 1 -97.46 6*14* 6 27137 239 25.9 315.7 -11.1 42.2 50.101 -94.5 6*24*33 10. 2 -146.81 27137 239 25.9 315.5 -11.2 42.2 50.001 -94.5 6*24*33 10. 2 -146.81 27137 239 25.8 315.5 -11.2 42.2 50.001 -95.5 9*38*33 9. 2 -171.48 11.6 6.19 27137 239 25.8 315.5 -11.4 42.3 50.008 -76.5 9*38*33 9. 3 163.84 27137 239 25.8 315.3 -11.4 42.3 50.008		2	136.7	4	_	3	٠.	16.	•	•	0.18	12.	*16*3	•			567
3 149.25 14.0.25 14.0.83 2712/4 238 27.0 315.8 -9.8 41.6 50.106 -12.3 14.21.33 21.2 4.2 239 26.0 315.7 -11.1 42.2 50.101 -94.5 6.244.33 10. 1 -122.13 7.511.31 27.13/4 239 25.9 315.5 -11.2 42.2 50.094 -81.6 8* 7*33 10. 2 -146.e1 9.288*5 27.13/4 239 25.9 315.5 -11.3 42.2 50.094 -81.6 8* 7*33 10. 2 -146.e1 9.288*5 27.13/4 239 25.9 315.5 -11.4 42.3 50.081 -76.3 114.1 15.1 42.2 50.094 -81.6 9* 38* 3 10. 3 163.e4 2.13/4 239 25.3 315.4 42.3 50.081 -76.3 114.4 15.4 50.081 -76.3 114.4 15.4 42.4 50.081 -76.		2	161.3	10*45*14		~	~	Š	6	•	.17	-	0*58*3	ë.			567
1 -97.46 ¢-14.4 ¢ 2/13/4 29-0 26.0 315.7 -11.1 42.2 50.101 -94.5 6-244.33 10. 1 -122.13 7.51.34 239 25.9 315.6 -11.2 42.2 50.094 -81.6 8* 7*33 16. 2 -146.81 9*28*55 2/13/4 239 25.9 315.5 -11.3 42.2 50.094 -81.6 8* 7*33 16. 2 -146.81 9*28*55 2/13/4 239 25.7 315.5 -11.4 42.3 50.088 -76.5 9*38*33 9. 3 163.84 12*44 239 25.7 315.4 -11.6 42.4 50.088 -76.2 14.433 20. 3 163.84 12*43*4 2/13/4 239 25.6 315.3 -11.6 42.4 50.088 -76.3 15.441*33 20. 3 114.49 15*58*3 2/13/4 239 25.6 315.3 -11.6		ю	.2	*		3	7	15.	6	•	. 16	2	4*21*3	•			567
1 -122.13 7*51*31 2/13/4 239 25.9 315.6 -11.2 42.2 50.094 -81.6 8* 7*33 16. 2 -146.81 9*28*55 2/13/4 239 25.8 315.5 -11.3 42.3 50.088 -76.5 9*38*33 9*3 2 -171.48 11* 6*19 2/13/4 239 25.8 315.5 -11.4 42.3 50.088 -76.5 9*38*33 50.08 3 163.84 12*43*44 2/13/4 239 25.7 315.4 -11.6 42.4 50.015 -76.3 13* 4*33 50.01 3 114.49 15*68*32 2/13/4 239 25.6 315.3 -11.7 42.4 50.068 -71.5 14*41*33 20.0 2 139.17 14*21 2/13/4 239 25.6 315.3 -11.8 42.5 50.068 -71.5 14*41*3 31. 1 -82.84 2/13/4 239 25.6 315.3		1	4.			3	9	5.	•	2.	.10	94.	*24*3	•			568
2 -146.01 9+20+55 2/13/4 239 25.8 315.5 -11.3 42.3 50.088 -76.5 9+38+33 9-38+33 9-38+33 9-38 2 -171.48 11* 6*19 2/13/4 239 25.8 315.5 -11.4 42.3 50.081 -82.0 11*21*33 15. 3 163.84 12*43*44 2/13/4 239 25.6 315.3 -11.7 42.4 50.081 -82.0 11*4*1*33 20. 3 114,49 15*58*32 2/13/4 239 25.6 315.3 -11.9 42.5 50.062 -71.5 14*4*1*33 20. 2 114,49 15*58*37 2/13/4 239 25.6 315.3 -11.9 42.5 50.062 -71.5 14*4*1*33 20. 1 -82.87 2/13/4 240 24.8 315.2 -13.9 42.5 50.010 -95.4 56.833 31. 1 -10.754 6*35*11 2/14/4 24		1	122.1	7*51*31		3	5	5	11.	2.	• 00	81.	* 7*3	÷,			568
2 1171.48 11* 6*19 2/13/ 4 239 25.7 315.4 -11.6 42.4 50.081 -82.0 11*21*33 15.4 3 163.84 12*43*44 2/13/ 4 239 25.7 315.4 -11.6 42.4 50.075 -76.3 13* 4*33 20. 3 139.17 14*21* 8 2/13/ 4 239 25.6 315.3 -11.7 42.4 50.068 -71.2 14*41*33 20. 2 89.82 17*35*57 2/13/ 4 240 24.8 315.2 -13.7 42.8 50.075 -21.0 18*13* 3 37. 1 -82.87 4*57*47 2/14/ 4 240 24.7 315.2 -13.1 42.9 50.070 -95.4 5* 6*33 11. 2 -132.22 8*12*35 2/14/ 4 240 24.5 315.1 -13.2 42.9 50.070 -95.4 8*20*33 11. 2 -156.89 9 9*50* C 2/14/ 4 240 24.5 315.0 -13.1 42.9 6*0.07 3 178.43 11*27*24 2/14/ 4 240 24.5 315.0 -13.3 43.0 49.590 -83.9 10* 1**3 11. 3 178.43 11*27*24 2/14/ 4 240 24.5 315.0 -13.3 43.0 49.590 -83.9 10* 1**3 11** 3 178.43 11*27*24 2/14/ 4 240 24.5 315.0 -13.3 43.0 49.590 -83.9 10* 1**3 11** 3 153.75 13* 4*49 2/14/ 4 240 24.4 314.9 -13.5 43.1 49.977 -73.7 13*23*3 18**		2	146.8	*28*5		~		5	•	2.	8v•0	76.	*38*3	•			568
3 163.84 1244344 2/13/4 239 25.7 315.4 -11.6 42.4 50.075 -76.3 13* 4*33 20. 3 139,17 14*21*8 2/13/4 239 25.6 315.3 -11.7 42.4 50.068 -71.2 14*41*33 20. 3 114,49 15*58*32 2/13/4 239 25.6 315.3 -11.8 42.5 50.062 -71.5 14*41*33 20. 2 89,62 17*35*57 2/13/4 239 25.5 315.3 -11.9 42.5 50.062 -71.5 14*41*33 25. 1 -82.87 2/14/4 240 24.8 315.2 -13.1 42.9 50.063 -41.8 5*6*33 11. 2 -10.7*54 6*35*11 2/14/4 240 24.7 315.2 -13.1 42.9 40.997 -90.0 44.8 5*6*33 11. 2 -13.2*2 2/14/4 240 24.5 315.9 <		2	-171.48	6*1		~	5	15.	11.	2.	0.08	2	*21*3	Š			568
3 1139.17 14*21* 8 2/13/4 239 25.6 315.3 -11.7 42.4 50.066 -71.5 14*41*33 25.6 3 114.49 15*58*32 2/13/4 239 25.6 315.3 -11.8 42.5 50.062 -71.5 16*24*3 25.5 1 -82.87 17*35*57 2/13/4 240 24.8 315.2 -13.7 42.8 50.062 -71.5 16*24*3 25.5 1 -82.87 2/13/4 240 24.8 315.2 -13.7 42.8 50.062 -71.8 5*6*33 37. 2 -10.7.54 4*57*47 2/14/4 240 24.7 315.2 -13.1 42.9 50.003 -41.8 6*46*33 111. 2 -132.22 8*12*35 2/14/4 240 24.5 315.0 -13.2 43.9 49.990 -83.9 10*1*33 111. 3 178.43 11*27*24 2/14/4 240 24.5		æ	163.84			3	5	Š	•	2	0.07	76.	3* 4*3	•			568
3 114,49 15*58*32 2/13/4 239 25.6 315.3 -11.8 42.5 50.066 -71.5 16*24* 3 25.5 1 -82.87 17*35*57 2/13/4 239 25.5 315.3 -11.9 42.5 50.05 -21.0 18*13* 3 37. 1 -82.87 4*57*47 2/14/4 240 24.8 315.2 -13.1 42.8 50.010 -95.4 5* 6*33 37. 2 -10.7.54 6*35*11 2/14/4 240 24.7 315.2 -13.1 42.9 50.010 -95.4 5* 6*33 37. 2 -10.7.54 6*35*11 2/14/4 240 24.5 315.1 -13.2 42.9 40.997 -80.0 8*20*33 11. 2 -136.89 9*50*0 2/14/4 240 24.5 315.0 -13.3 43.0 49.590 -83.9 10* 1*33 11. 3 178.43 11*27*24 2/14/4 240 24.4		6	39.1	4*21*		\sim	5	5	•	2.	0.06	71.	4*41*3				568
2 89.82 17.35.67 2/13/4 4 239 25.5 315.3 -11.9 42.5 50.055 -21.0 18*13* 3 37.2 1 -82.87 4*57*47 2/14/4 240 24.8 315.2 -13.1 42.9 50.003 -95.4 5* 6*33 8. 2 -10.7.54 6*35*11 2/14/4 240 24.7 315.2 -13.1 42.9 50.003 -41.8 6*46*33 11. 2 -132.22 8*12*35 2/14/4 240 24.5 315.1 -13.2 42.9 49.997 -80.0 8*20*33 11. 2 -156.89 9*50*0 2/14/4 240 24.5 315.0 -13.3 43.0 49.997 -83.9 10* 1*33 11. 3 178.43 11*27*24 2/14/4 240 24.4 314.9 -13.4 43.0 49.997 -83.9 10* 1*33 18. 3 178.43 2/14/4 240 24.4 <		3	114.49	5*58*3		3	5.	5	•	2.	9ე•ე	71.	6*24*	5.			568
1 -82.87 4*57*47 2/14/4 240 24.8 315.2 -13.7 42.8 50.010 -95.4 5* 6*33 8. 1 -10.7.54 6*35*11 2/14/4 240 24.5 315.2 -13.1 42.9 50.003 -41.8 6*46*33 11. 2 -132.22 8*12*35 2/14/4 240 24.5 315.0 -13.3 43.0 49.997 -80.0 8*20*33 8. 2 -156.89 9*50* C 2/14/4 240 24.5 315.0 -13.3 43.0 49.993 -79.6 11*46* 3 18. 3 178.43 11*27*24 2/14/4 240 24.4 314.9 -13.5 43.1 49.977 -73.7 13*23*33 18.		2	9.8	*35*		'n	5.	Š	11.	2.	0.05	21	8*13*	۲.			568
1 -167.54 6*35*11 2/14/4 240 24.7 315.2 -13.1 42.9 50.003 -41.8 6*46*33 11. 2 -132.22 8*12*35 2/14/4 240 24.5 315.1 -13.2 42.9 49.997 -80.0 8*20*33 8. 2 -156.89 9*50* C 2/14/4 240 24.5 315.0 -13.3 43.0 49.990 -83.9 10* 1*33 11. 3 178.43 11*27*24 2/14/4 240 24.4 314.9 -13.4 43.0 49.983 -79.6 11*46* 3 18. 3 153.75 13* 4*49 2/14/4 240 24.4 314.9 -13.5 43.1 49.977 -73.7 13*23*33 18.		-	82.8	4*57*47		4	4	15.	13.	2.	0.01	5.	* 6*3	•			569
2 -132.22 8*12*35 2/14/ 4 240 24.5 315.1 -13.2 42.9 49.997 -80.0 8*20*33 8. 2 -156.89 9*50* C 2/14/ 4 240 24.5 315.0 -13.3 43.0 49.990 -83.9 10* 1*33 11. 3 178.43 11*27*24 2/14/ 4 240 24.4 314.9 -13.4 43.0 49.983 -79.6 11*46* 3 18. 3 153.75 13* 4*49 2/14/ 4 240 24.4 314.9 -13.5 43.1 49.977 -73.7 13*23*33 18.		-	167.5	m		240	. 4	5	13.	•	00.0	•	*46*3	•			569
2 -156.89 9*50* C 2/14/ 4 240 24.5 315.0 -13.3 43.0 49.590 -83.9 10* 1*33 11. 3 178.43 11*27*24 2/14/ 4 240 24.4 314.9 -13.4 43.C 49.983 -79.6 11*46* 3 18. 3 153.75 13* 4*49 2/14/ 4 240 24.4 314.9 -13.5 43.1 49.977 -73.7 13*23*33 18.		2	132.2	*12#3		4	4	15.	•	2.	6.69	•	*20*3	•			269
3 178.43 11*27*24 2/14/ 4 243 24.4 314.9 -13.4 43.0 49.983 -79.6 11*46* 3 18. 3 153.75 13* 4*48 2/14/ 4 240 24.4 314.9 -13.5 43.1 49.977 -73.7 13*23*33 18.		2	156.8			4	4	ď.	•	ě	65°6	83.	0* 1*3	•			699
3 153.75 13* 4*48 2/14/ 4 240 24.4 314.9 -13.5 43.1 49.977 -73.7 13*23*33 18.		3	78.4	7#2		4	4.	4	•		96.6	79.	* 9 7	ထံ			569
		3	53.7			4	4	4	•	3	6	73.	3*23*3	ဆိ			569

CLAS				REACOUT	11				ORBIT			TIME I	INTERVAL OF	FILE ON	N FMR TAPE	
CRAN FRENCH FRE			SATELL	1 H 1	CROSSIN NODE (A CON	SPIN	VECTOR	ATTII	rube		EGIN	w Z		DROPOUTS, MINUTES	
1731-50 14+ 8+ 3 2/17/4 243 20-9 312-8 19-5 45-16 45	311	CDA	EARTH LCNGI -TUDE (DEG)	HOURS MINUTES SECENDS (GMT)	ALENDAR DATE	TIRO	DECLI -NA -TION (DEG)	RIGHT ASCEN -SION (DEG)		TOT (MIN. AFTER AND)	SPIN RATE (DEG /SEC)	•	HOURS MINUTES SECONDS (GMT)	MINU -TES W/R/T AND	FROM- TO-	FMR TAPE REEL NO.
3 98.83 15.455.72 2/17/4 243 20.8 312.8 -19.6 45.1 49.67 -68.5 16.10.9 3 20.4 1 -99.55 444446 2/11/4 243 20.7 312.7 -19.7 45.1 49.667 -65.4 18.2 20.7 312.4 -20.8 45.5 49.667 -65.4 18.2 20.1 312.4 -20.8 45.5 49.667 -65.4 18.2 20.1 312.4 20.9 45.6 49.67 -65.4 18.9 49.9 312.4 -20.9 45.6 49.607 -65.4 18.9 312.4 -20.9 45.6 49.607 -65.4 18.9 31.2 20.9 45.6 49.607 -65.4 18.9 31.2 20.9 45.6 49.607 -65.4 18.9 31.2 20.1 45.6 18.9 31.1 45.7 49.607 49.60 49.60 49.60 49.60 49.60 49.60 49.60 49.60 49.60 49.60 49.60 </td <td>5</td> <td>3</td> <td>1 2</td> <td>4 8 8 *</td> <td></td> <td>4</td> <td>0</td> <td>12.</td> <td>٠,</td> <td>S</td> <td>9.68</td> <td>71.8</td> <td>14*30*33</td> <td> %</td> <td></td> <td>572</td>	5	3	1 2	4 8 8 *		4	0	12.	٠,	S	9.68	71.8	14*30*33	%		572
2 14.15 17.22.*52 27.17 / 4 24.3 20.7 312.7 -19.7 45.1 45.6 45.5 45.6 45.6 45.6 45.6 45.6 45.6 45.6 30.3 45.6 30.3 45.6 45.7 45.6 45.6 45.7 45.6 45.6 45.7 45.6 45.7	9	٣	8.8	5*45*2		243	20.8	12.	19.	S	9.67	68.	e*10*	24.6		572
1	~	2	4.1	7*22*5		4	0	2.	6	5	99.6	65.	8* 2*3	•		572
2 -113.2.2 6.52.* 6 2/18/4 244 20.1 12.2. 45.6 49.617 -80.1 45.6 49.617 -80.1 65.6 49.617 -80.1 10.2 -113.2 21.0 4.2 20.0 312.4 -20.1 45.6 49.607 -80.5 8.9 3.0 10.2 11.0 49.607 -80.5 8.9 11.0 8.9 11.0 8.0 49.607 -80.5 8.9 11.0 8.0 49.607 -80.5 8.9 11.0 8.0 49.607 -80.5 11.0 9.507 49.607 -80.5 11.0 9.0 11.0 9.0 11.0 9.0 11.0 9.0 11.0 9.0 11.0 9.0 11.0 9.0 11.0 9.0 11.0 9.0 11.0 9.0 11.0 9.0 11.0 9.0 11.0 9.0 11.0 9.0 11.0 9.0 11.0 9.0 11.0 9.0 11.0 9.0 11.0 9.0 11.0	4	7	98.5	5 *55*	_	544	20.1	•	•		49.620	35.	•56*3	•		573
2 -147.89 7*59*31 2/18/4 244 20.0 312.4 -21.1 45.6 49.607 -83.5 1155*33 21 3 162.75 11:14:19 2/18/4 244 19.9 312.1 -21.4 45.7 49.5 46.7 49.5 46.7 49.5 46.7 49.5 46.7 49.5 46.7 49.5 46.7 49.5 46.2 49.5 46.7 49.5 46.2 49.5 46.2 49.5 46.2 49.5 49.5 46.2 49.5 <td>'n</td> <td>2</td> <td>123.2</td> <td></td> <td></td> <td>244</td> <td>20.1</td> <td></td> <td>20.</td> <td>45.6</td> <td>9.61</td> <td>80.</td> <td>*30*3</td> <td>•</td> <td></td> <td>573</td>	'n	2	123.2			244	20.1		20.	45.6	9.61	80.	*30*3	•		573
3 102.75 11-14+19 2/18/4 244 19.9 312.2 -21.3 45.7 49.59 -82.2 11.36-23 21.1 1.14 45.7 49.9 312.1 -21.4 45.7 49.9 11.2 -21.4 45.7 49.9 11.2 -21.4 45.7 49.6 19.9 312.1 -21.4 45.7 49.6 49.7 -10.4 45.7 45.8 49.57 -70.8 13.12.33 26.4 49.7 15.0 -21.7 45.8 49.57 -70.8 13.12.33 26.8 49.57 -69.3 46.7 49.58 49.57 -69.3 46.7 49.58 49.57 49.57 49.53 37.2 12.4 37.2 11.24.9 37.2 11.24.9 37.2 46.4 49.49 <	9	2	147.8	59#3		244	C	•	-:	45.6	9.60	83.	* 9#3	10.0		573
3 138.08 12.511.44 2/18/4 244 19.9 312.1 -21.4 45.7 49.587 -70.8 1312.33 16.444.3 3 2 2 133.31 6.43.11 2/19/4 244 19.7 312.0 -21.7 45.8 49.574 -63.3 16.444.3 3 7 2 -133.31 6.43.11 2/19/4 245 18.9 311.6 -22.9 46.2 49.514 81.5 33.3 2 -157.98 8.20.36 2/19/4 245 18.9 311.5 -23.0 46.3 49.508 83.5 33.3 128.63 128.63 11.5 245.4 11.3 -23.0 46.4 49.498 -72.0 13.55.3 128.63 11.5 27.9 46.4 49.498 -72.0 13.55.3 128.63 11.5 11.5 245.6 11.7 311.3 -23.0 46.4 49.498 -72.0 11.5 11.5 11.5 11.5 11.5 11.5 11.5 11.5 11.	œ	8	62.7	11*14*19		244	•	•	•	45.7	9.59	82.	*35*3	21.2		573
2 188.74 16 + 6 + 3.2 2 / 18 / 4 244 19.7 312.0 -21.7 45.8 49.574 -65.3 16 + 44+* 3 2 -133.31 6 + 43 + 11 2 / 19 / 4 245 18.9 311.6 -22.9 46.2 49.514 -81.5 6 + 50.3 165.64 -81.5	6	m	38.0	2*51*4	8	244	6	2	-	•	9.58	70.	3*12*3	•		573
2 -133.31 6*43*11 2/19/4 245 18.9 311.6 -22.9 46.3 49.504 -81.5 6*50*33 7 2 -157.98 8*20*36 2/19/4 245 18.9 311.5 -23.0 46.3 49.508 -81.5 6*50*33 7 3 152.67 11*35*24 2/19/4 245 18.8 311.3 -23.2 46.4 49.494 -73.5 11*54*33 19 3 122.67 18.8 311.3 -23.2 46.4 49.494 -73.5 11*54*33 19 2 18.65 11.9 245 18.7 311.2 -23.6 46.5 49.494 -73.5 11*54*33 19 2 1.68.7 2/19/4 245 18.7 311.3 -23.6 46.5 49.494 -73.5 11*54*33 19 2 1.68.7 2/19/4 246 17.7 310.5 -24.6 47.0 49.49 -73.6 11*54*33 21	_	2	8.7	*9	_	244	6	312.0	•	5.	9.57	63.		•		573
2 -157.98 8+20*36 2/19/4 245 18+9 311.5 -23.0 46.3 49.508 -83.5 8+32*33 128 3 152.67 11*55*24 2/19/4 245 18+8 311.3 -23.2 46.4 49.494 -73.2 11*54*33 19 3 128.67 11*125*24 2/19/4 245 18+7 311.2 -23.4 46.4 49.498 -72.0 13*35*3 19 2 -168.06 8*41*41 2/20/4 246 17.7 310.5 -23.6 46.5 49.408 -72.0 13*35*3 10 3 167.26 2/20/4 246 17.6 310.4 -24.9 47.0 49.408 -72.0 10*39*3 20 3 167.26 16.4 246 17.6 310.3 -25.1 47.0 49.408 -72.0 10*39*3 20 3 162.26 17.6 17.6 310.3 -25.1 47.0 49.408 -72.0	0	7	133.	6*43*11		245	œ	•	•		9.51	81.	ů	•		574
3 152.67 11*35*24 2/19/4 245 18.8 311.3 -23.2 46.4 49.494 -73.2 11*56*33 19 3 128.60 12*12*49 2/19/4 245 18.7 311.3 -23.4 46.4 49.488 -72.0 13*35*3 22 2 78.65 16*27*37 2/19/4 245 18.7 311.2 -23.6 46.9 49.408 -83.8 8*56*33 14 2 -168.0 6*41*41 2/20/4 246 17.6 310.4 -24.9 47.0 49.408 -83.8 8*56*33 14 3 167.26 10*19** 2 2/20/4 246 17.6 310.4 -24.9 47.0 49.408 -72.0 17.8 18.5 17.0 49.408 -83.8 8*56*33 14 18.5 18.5 310.4 -24.9 47.0 49.408 -83.8 8*56*33 14 18.5 18.5 310.4 -24.9 47.0 49.408 <		2	157.9	8*20*36		4	8	•	23	46.3	9.50	83.	*32*3	12.0		574
3 128.C. 13.12*49 245 18.7 311.3 -23.4 46.4 49.488 -72.0 13.35*3 22 2 78.65 16.45 16.45 311.2 -23.6 46.5 49.475 -61.6 17.7*** 39.6 2 -168.76 8*41*41 2/20/4 246 17.7 310.5 -24.8 46.9 49.408 -83.8 8*56*33 14 3 167.26 10*19*5 2/20/4 246 17.6 310.4 -24.9 47.0 49.408 -83.8 8*56*33 14 3 142.59 11*56*29 2/20/4 246 17.6 310.3 -25.1 47.0 49.408 -83.8 8*56*33 19 2 -128.89 2/20/4 246 17.5 310.3 -25.1 47.1 49.386 -70.7 13*57*3 20 2 -128.89 2/20/4 246 17.4 310.2 -26.3 47.1 49.389 -48.4 14*	~	6	52.6	5 * 5		245	æ	•	23.	46.4	6.49	73.	*54*3	19.2		574
2 78.65 16.27737 2/19/4 245 18.5 311.2 -23.6 46.5 49.475 -61.6 17.7 310.5 -24.8 46.9 49.475 -61.6 17.7 310.5 -24.8 46.9 49.476 -83.8 8*56*33 14 3 167.26 10.19*5 2/20/4 246 17.6 310.4 -24.9 47.0 49.402 2.1 10*39*33 20 3 167.26 11.56*29 2/20/4 246 17.6 310.3 -25.1 47.0 49.402 2.1 10*39*33 20 3 162.59 11.56*3 17.6 310.3 -25.1 47.0 49.402 2.1 10*16*3 20 2 117.91 12.3*3*54 2/20/4 246 17.4 310.2 -25.2 47.1 49.386 -70.7 13*57*3 23 2 -128.80 2.40*1 247 16.5 309.4 40.39 40.2 40.4 40.38 4	4	'n	28	3*12*4	/61/	4	8	•	ě	46.4	9.48	72	3*35*	22.2		574
2 168.76 8*41*41 2/2C/ 4 246 17.7 310.5 -24.8 46.9 49.408 -83.8 8*56*33 14 3 167.26 10*19* 5 2/2C/ 4 246 17.6 310.4 -24.9 47.0 49.402 2.1 10*39*33 20 3 142.59 11*56*29 2/2C/ 4 246 17.6 310.3 -25.1 47.0 49.402 2.1 10*39*33 20 2 13.24 15*11*18 2/2C/ 4 246 17.5 310.3 -25.2 47.1 49.388 -70.7 13*57* 3 23 2 128.89 5 47.1 13*33*54 2/2C/ 4 246 17.5 310.3 -25.2 47.1 49.388 -70.7 13*57* 3 23 2 107.83 12*54*59 2/2L/ 4 247 16.5 399.7 -26.3 47.9 49.289 -64.8 15*48* 3 34 2 107.83 12*54*59 2/2L/ 4 247 15.3 398.8 -26.3 48.0 49.289 -48.4 14*31* 3 34 2 114.21 4*31*37 2/22/ 4 248 12.5 398.0 -26.3 48.9 49.230 -81.9 4*43*33 11 2 -114.21 4*31*37 2/22/ 4 248 12.3 397.8 -26.3 48.9 49.233 -71.8 6*18* 3 9 2 147.69 11* 1*15 2/22/ 4 248 11.3 307.2 -26.0 49.1 49.223 -71.5 11*20*33 19 2 97.75 14*10* 3 2/22/ 4 248 11.3 307.5 -25.9 49.3 49.3 6*190 -53.6 14*51* 3 35	9	8	8.6	Ę.		245	œ	•	3	46.5	9.47	61.	* 7 *			574
3 167.26 10*19* 5 2/2C/ 4 246 17.6 310.4 -24.9 47.0 49.402 2.1 10*39*33 20 3 142.59 11*56*29 2/2C/ 4 246 17.6 310.3 -25.1 47.0 49.395 -71.0 12*16*33 20 2 117.91 13*33*54 2/20/ 4 246 17.5 310.3 -25.2 47.1 49.386 -70.7 13*57*3 23 2 93.24 15*11*18 2/2C/ 4 246 17.4 310.2 -25.3 47.1 49.386 -64.8 15*48*3 33 2 -128.89 5*47*57 2/21/ 4 247 16.5 309.7 -26.3 47.9 49.289 -48.4 14*31*3 36 2 10.7.83 12*24*3 247 15.0 308.8 -26.3 47.9 49.289 -48.4 14*31*3 37 2 114.21 2*21/ 4 248 12.5 308.8 -26.3	9	2	168.	4		246	•	•	•	6.94	9.40	83.	~	•		575
3 142.59 11*56*29 2/20/4 246 17.6 310.3 -25.1 47.0 49.395 -71.0 12*16*33 20 3 117.91 13*33*54 2/20/4 246 17.5 310.3 -25.2 47.1 49.388 -70.7 13*57*3 23 2 -128.80 5*47*57 2/21/4 247 16.5 309.7 -26.5 47.5 49.322 -64.8 15*48*3 36 2 107.83 13*54*59 2/21/4 247 15.3 308.8 -26.3 47.9 49.289 -48.4 14*31*3 36 2 107.83 13*54*59 2/21/4 247 15.0 308.8 -26.3 48.0 49.289 -48.4 14*31*3 36 3 147.09 11* 1*15 2/22/4 248 12.5 308.0 -26.3 48.9 49.230 -81.9 4*43*33 11 3 147.09 11* 1*15 2/22/4 248 11.5 307.2 -26.0 49.1 49.203 -71.5 11*20*33 19 2 97.75 14*16*3 2/22/4 248 11.0 307.5 -25.9 49.3 49.9 49.190 -53.6 14*51*3 35	7	٣	.2	*		246	17.6	•	24.	47.0	9.40	2.1	* 3	20.5		575
3 117.91 13*33*54 2/20/4 246 17.5 31C.3 -25.2 47.1 49.386 -70.7 13*57*3 23 2 93.24 15*11*18 2/2C/4 246 17.4 310.2 -25.3 47.1 49.382 -64.8 15*48*3 36 2 -128.80 5*47*57 2/21/4 247 16.5 309.7 -26.5 47.5 49.382 -64.8 15*48*3 36 2 107.83 13*54*59 2/21/4 247 15.0 308.8 -26.3 47.9 49.289 -48.4 14*31*3 36 2 10.7.83 12*22*2 2/21/4 247 15.0 308.8 -26.3 48.9 49.289 -48.4 14*31*3 37 1 -114.21 4*31*37 2/22/4 248 12.5 308.0 -26.3 49.0 49.289 -48.4 14*443*3 11 2 -138.89 6*9*2 2/22/4 248 12.3 <td< td=""><td>80</td><td>8</td><td>42.5</td><td>* 2</td><td></td><td>246</td><td>17.6</td><td>•</td><td>5</td><td>47.0</td><td>9.39</td><td>7.1</td><td>2*16*3</td><td>20.1</td><td></td><td>575</td></td<>	80	8	42.5	* 2		246	17.6	•	5	47.0	9.39	7.1	2*16*3	20.1		575
2 -128.89 5*47*57 2/21/ 4 247 16.5 309.7 -26.5 47.5 49.382 -64.8 15*48* 3 36 2 -128.89 5*47*57 2/21/ 4 247 16.5 309.7 -26.5 47.5 49.322 -81.5 5*55* 3 7 2 -128.89 5*47*57 2/21/ 4 247 15.3 378.8 -26.3 47.9 49.289 -48.4 14*31* 3 36 2 107.83 13*54*59 2/21/ 4 247 15.0 378.8 -26.3 48.0 49.283 -51.1 16* 9*33 37 1 -114.21 4*31*37 2/22/ 4 248 12.5 378.0 -26.3 48.9 49.230 -81.9 4*43*33 11 2 -138.89 6* 9* 2 2/22/ 4 248 12.3 307.8 -26.2 49.0 49.1 49.203 -72.8 6*18* 3 9 3 147.0 11* 1*15 2/22/ 4 248 11.5 307.2 -26.0 49.1 49.203 -71.5 11*20*33 19 3 147.0 11* 1*15 2/22/ 4 248 11.3 307.5 -25.9 49.1 49.203 -71.5 11*20*33 19 2 97.75 14*16* 3 2/22/ 4 248 11.3 307.5 -25.9 49.1 49.203 -71.5 11*20*33 35	6	8	117.91	3 * 33		246	~	10.	5.	47.1	9.38	2	3*57*	e.		575
2 107.83 13*54*57 2/21/ 4 247 16.5 309.7 -26.5 47.5 49.322 -81.5 5*55*3 7 2 107.83 13*54*59 2/21/ 4 247 15.3 308.8 -26.3 48.0 49.289 -48.4 14*31*3 36 1 -114.21 4*31*37 2/22/ 4 248 12.5 308.0 -26.3 48.0 49.283 -51.1 16*9*33 37 2 -138.89 6*9*2 2/22/ 4 248 12.5 307.8 -26.2 49.0 49.223 -72.8 6*18*3 99 3 147.0 11*1*15 2/22/ 4 248 11.6 307.2 -26.0 49.1 49.203 -71.5 11*20*33 19 2 97.75 14*16*3 2/22/ 4 248 11.0 307.5 -25.9 49.3 49.10 -53.6 14*51*3 35	0	2	3.2	5*11*1		246	۲.	•	•	47.1	9.38	64.	5 * 48 *	36.8		575
2 167.83 13*54*59 2/21/ 4 247 15.3 398.8 -26.3 47.9 49.289 -48.4 14*31* 3 36 2 83.16 15*23*23 2/21/ 4 247 15.0 398.8 -26.3 48.0 49.283 -51.1 16* 9*33 37 1 -114.21 4*31*37 2/22/ 4 248 12.5 398.0 -26.3 48.9 49.230 -81.9 4*43*33 11 2 -138.89 6* 9* 2 2/22/ 4 248 12.3 307.8 -26.2 49.0 49.223 -72.8 6*18* 3 9 3 147.0 11* 1*15 2/22/ 4 248 11.5 307.2 -26.0 49.1 49.203 -71.5 11*20*33 19 2 97.75 14*16* 3 2/22/ 4 248 11.0 307.5 -25.9 49.3 49.190 -53.6 14*51* 3 35	6	7	128.8	*47*		247		6	•	•	9.32	81.	55*	7.1		576
2 83.16 15*32*23 2/21/ 4 247 15.0 308.8 -26.3 48.0 49.283 -51.1 16* 9*33 37 1 -114.21 4*31*37 2/22/ 4 248 12.5 308.0 -26.3 48.9 49.230 -81.9 4*43*33 11 2 -138.89 6* 9* 2 2/22/ 4 248 12.3 307.8 -26.2 49.0 49.223 -72.8 6*18* 3 9 3 147.0 11* 1*15 2/22/ 4 248 11.6 307.2 -26.0 49.1 49.203 -71.5 11*20*33 19 2 9 97.75 14*16* 3 2/22/ 4 248 11.0 307.0 -25.9 49.3 49.190 -53.6 14*51* 3 35	4	2	ω.	3+54+5		247	5.	•	•	•	9.28	48	4*31*	36.1		576
1 -114.21 4*31*37 2/22/4 248 12.5 378.0 -26.3 48.9 49.230 -81.9 4*43*33 111 2 -138.89 6* 9* 2 2/22/4 248 12.3 307.8 -26.2 49.0 49.223 -72.8 6*18* 3 9 3 147.0 11* 1*15 2/22/4 248 11.6 307.2 -26.0 49.1 49.203 -71.5 11*20*33 19 2 97.75 14*16* 3 2/22/4 248 11.0 307.5 -25.9 49.3 49.190 -53.6 14*51* 3 35	Ŋ	2	3.1	5*32*2	_	4	•	•	•	48.0	9.28	51.	9 * 3	•		576
2 -138.89	3	1	114.	*31*3	77	248	•	•	•	•	9.2		*43*3	•		577
3 147.(.9 11* 1*15 2/22/ 4 248 11.6 307.2 -26.0 49.1 49.2C3 -71.5 11*20*33 19 2 97.75 14*16* 3 2/22/ 4 248 11.0 307.0 -25.9 49.3 49.190 -53.6 14*51* 3 35	4	2	ά.	****		4	2	•	•	Ū*65	9.22	72.	*	0.6		577
2 97.75 14*16* 3 2/22/ 4 248 11.9 307.5 -25.9 49.3 49.190 -53.6 14*51* 3 35	-	3	47.(1*1	_	4	11.6	•	•	49.1	9.20		*3	•		577
	6	2	97.75	*	_	- 4	11.0	•	25.	•	6	53	*	35.0		577

•		FMR TAPE REEL	0 N	578	578	578	578	578	579	579	579	579	579	579	580	580	580	580	581	581	581	581	581	582	582	582	582	582	583
V FMR TAPE	DROPOUTS,	W/R/T AND FROM- TO-																											
FILE ON	۵	MINU -TES W/R/T	ANG	6 6	13.9	6.6	32.8	36.4	7.6	10.5	7.8	11.4	18.6	34.7	8.5	13.1	8.7	33.5	10.4	6.5	10.6	31.8	33.5	7.7	12.3	7.9	31.7	34.9	9.2
INTERVAL OF	Z W	HOURS MINUTES SECONDS	CIMI	3*24*33	5* 6*33	6*40*3	13*32*33	15*13*33	2* 6*33	3*46*53	5*21*33	7* 2*33	10*24*33	13*55*33	2*28*33	4*10*33	5*43*33	11* 0*33	2*51*33	4*25* 3	6* 6*33	9*42*33	12*59* 3	1+32+33	3*14*33	4*47*33	10* 3*33	13*21*33	1*55* 3
TIME	BEGIN	MINU -TES W/R/T	AND	8 8 8 F	-76.1	-72.4	-60.3	-52.2	-87.6	-78.1	-74.9	-77.1	-71.9	-55.0	-67.8	-72.8	-73.0	-59.9	-80.8	-75.7	-79.3	-62.7	-41.6	-89.9	-78.4	-73.9	5.1	-42.1	0.06-
		SPIN RATE (DEG	SEC.	49.138	49.131	49.125	49.098	49.092	49.048	49.045	49.035	49.029	49.016	49.003	48.951	48.945	48.938	48.919	48.856	48.850	48.844	48.832	48.819	48.770	48.764	48.758	48.740	48.728	48.680
-	TTITUDE	TOT (MIN. AFTER	ANU	20.06	50.3	50.4	50.7	50.8	51.5	51.6	51.7	51.7	51.9	52.0	52.9	53.0	53.0	53.3	54.3	54.4	54.4	54.5	54.7	55.6	55.7	55.8	56.0	56.1	57.0
08811	4	MINI - MUM NADIR	1056	0.97-	-25.9	-25.8	-25.6	-25.6	-25.5	-25.5	-25.4	-25.3	-25.2	-25.1	-25.2	-25.1	-25.0	-24.9	-24.7	-24.6	-24.6	-24.4	-24.3	-24.4	-24.3	-24.3	-24.1	-24.0	-23.9
	VECTOR	A SCEN - SION	10567	306.5	306.3	306.1	305.4	305.4	304.9	304.7	304.5	304.3	303.9	303.7	303.4	303.2	303.0	302.5	301.9	301.7	301.5	301.2	301.0	300.9	300.7	3000.6	300.1	599.9	299.7
	SPIN	DECLI -NA -TION	10501	φ • •	8.3	8.1	7.1	6.8	4.6	4.4	4.2	3.9	3.5	3.0	0.5	0.3	0.1	-0 - 5	-3.4	-3.7	-3.9	-4.3	-4.8	-7.1	-7.3	-7.5	-8.1	-8.7	-10.9
	G AT	TIROS	٠,	۲. ۲.	549	548	549	549	250	250	250	250	250	250	251	251	251	251	252	252	252	252	252	253	253	253	253	253	254
IUT	CROSS IN	⋖		4 /57/7	2/23/ 4	2/23/ 4	2/23/ 4	2/23/ 4	2/24/ 4	2/24/ 4	2/24/ 4	2/24/ 4	2/24/ 4	2/24/ 4	2/25/ 4	2/25/ 4	2/25/ 4	2/25/ 4	2/26/ 4	2/26/ 4	2/26/ 4	2/26/ 4	2/26/ 4	2/27/ 4	2/27/ 4	2/27/ 4	2/27/ 4	2/27/ 4	2/28/ 4
REACOUT	ITE ECUATOR ASCENDING	HOURS PINCTES SECCNOS		0T#CT#5	4*52*42	6+30+ 7	12#59#44	14*37* 8	1*58*59	3*36*23	5*13*47	6*51*12	10* 6* 0	13*20*49	2*20* 3	3*57*28	5*34*52	10*27* 5	2*41* 8	4*18#32	5*55*57	9*10*45	12*25*34	1*24*49	3* 2*13	4*39*37	9*31*50	12*46*39	1*45*53
	SATELLI	EARTH LCNGI -TUDE	10701	60.66	-124.30	-148.97	112.33	87.66	-85.64	-109.71	-134.38	-159.65	151,59	102.25	-95.13	-119.80	-144.48	141.59	-105.21	-129,88	-154.56	156.09	106.74	-93.62	-115.30	-139.97	146.(1	99.96	-139.71
		CDA	-	4	-	2	2	2	-	-	2	2	3	7	1	-	~	7	-	2	2	1	7	-	-	2	1	2	7
		ORBIT NO.	77.71	2	3678	3679	3683	3684	3691	3695	3693	3634	3638	3698	3706	3707	3708	3711	3721	3722	3723	3725	3727	3735	3736	3737	3740	3742	3750

		FMR	REEL NO.	583	583	583	583	583	583	584	584
FMR TAPE	DROPOUTS, MINUTES	W/R/T AND	FRCM- TO-								
FILE ON	۵	ONIW	W/R/T AND	6.3	6.6	31.1	34.6	32.2	38•3	8.0	34.2
TIME INTERVAL OF	E E	-	SECONDS (GMT)	3*29*33	5*10*33	8*46*33	10*27*33	12* 2*33	13*46* 3	0*37*33	10.4 12*25*33
TIME IN	BEGIN	ONIM	N R / T	-73.5	6.61-	-62.5	-54.4	-50.9	-52.9	-85.7	10.4
		NIGS	(DEG /SEC)	48.674	57.2 48.668	57.6 48.657	48.651	48.645	48.639	48.598	61.1 48.558
	rude	TOT	AFTER ANO)	57.1	57.2	57.6	57.7	57.8	58.1	0.09	61.1
ORBIT	ATTITUDE	MINI	AADIR (DEG)	-23.8	-23.2	-22.1	-21.6	-21.2	-20.7	-18.6	-15.8
	VECTOR	RIGHT MINI	ASCEN -SICN (DEG)	299.4 -23.8	299.0	298.3	298.2	298.1	298.3	299.9	299.5 -15.8
	SPIN	DECLI	-NA -TION (DEG)	-111-7	-12.4	-13.8	-14.6	-15.5	-16.4	-22.5	-27.3
i	ING AT	TIROS	DAY	254	254	254	254	254	254	255	255
UT	R CROSSING	AR	DATE	2/29/ 4	2/28/ 4	2/28/ 4	2/28/ 4	2/28/ 4	2/28/ 4	2/29/ 4	2/29/ 4
REACOUT	SATELLITE EQUATOR CROSS	- 1	MINCTES SECCNDS (GMT)	3*23*18	5* 0*42	8*15*30	5+55+55	111.25 11#30#19	13* 7*44	6+59+34	101.17 11*51*24
1	SATELLIT	EARTH	LCNGI LTUDE (DFC)	-125.38	-150.05	160.59	135.92	111.25	86.58	-86.12	101.17
		CDA	STA	2	2	-	1	2	2	-	2
		ORBIT	• 02	3751	3752	3754	3755	3756	3757	3764	1,171

APPENDIX B SUBPOINT TRACK SUMMARY OF AVAILABLE RADIATION DATA

In this section, the time interval for which radiation data are available on the FMR tapes for TIROS VII from October 1, 1963, to February 29, 1964, is summarized diagrammatically by means of subpoint tracks for each interrogation day. As discussed pre-

viously, an interrogation day may be contained within the calendar day, or it may consist of 2 calendar days. This method of presentation enables the data user to quickly appraise the orbits containing data in an area of interest. Additional information illustrating the use of the Subpoint Track Summaries is explained in Appendix B, Volume 1.

